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NEWTON, MASSACHUSETTS

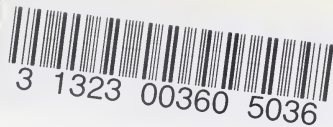
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THE  
INAUGURAL ADDRESS  
OF  
WILLIAM B. FOWLE,  
MAYOR OF NEWTON,  
TO  
THE CITY COUNCIL,  
JANUARY 6, 1879.



BOSTON:  
HENRY WASHBURN, PRINTER, 221 WASHINGTON ST.  
1879.



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NEWTON COLLECTION



## ADDRESS.

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GENTLEMEN OF THE BOARD OF ALDERMEN AND COMMON  
COUNCIL :—

We have taken the oath of office, and by that oath have sworn to perform the duties of the several positions to which we have been elected. The phraseology of our obligation runs thus: “according to the best of our ability and understanding, agreeably to the rules and regulations of the constitution and the laws of this Commonwealth.”

Upon the due observance of this oath, largely depends the welfare and good management of the interests of our city. “To the best of our ability and understanding.” Does not this imply that we should study to understand the powers, the duties and responsibilities of our several official positions, as defined by the Statutes which create those positions?

Good government demands that the power, and consequently the responsibility, should be delegated to agents. Our City Charter creates many such agencies; the statutes add others; and we, members

of the Common Council, of the Board of Aldermen, and Mayor, are agents to perform such duties as are designated by law to devolve upon our several positions. No one of us can, nor ought we if we could, part with one iota of the duty and responsibility laid upon us by law. The duties appertaining to the several offices are established and marked out by the same power that creates these offices, and should be performed by those to whose care they have been entrusted. Thus, the praise for able and faithful performance, or the blame for incompetent or unfaithful service, could only fall where it would justly belong. I recommend study of the laws which charter and govern our city. The information gained through such study of the duties imposed upon each of us would be of great value to the city, and would allay much of that antagonistical feeling which has existed between the several branches, which, in my opinion, has no just cause, and which is much to be regretted.

The general policy during the past year has been to avoid and postpone all expenditures not imperatively demanded. The result of this policy to the present time will be plainly shown by the figures to be hereinafter given. For the coming year this policy should continue.

## CITY ORDINANCES.

In matters of municipal government, for the purpose of aiding and carrying out in greater detail the statutes of the State, the City Council is given authority to enact ordinances or by-laws, and to establish certain penalties for the breach of their provisions. These ordinances must be strictly conformable with law, or they are null and void, because illegal. A revision of the Ordinances, which was earnestly recommended in my address of last year, has made no progress. Early in the year 1878, finding that Ordinance Number Four could not possibly be obeyed, I addressed a communication to the City Council, calling attention to its contradictions and absurdities, and plead for a remedy. The subject of a revision of this financial ordinance was discussed, and all necessary amendments were agreed upon by both branches. It failed of final passage because of the insistence of the Common Council upon the adoption of an amendment suggested in that body, to the effect that the following words should be stricken out: "All claims and demands against the city not clearly within the province of any committee, and incidental expenses not otherwise provided for, and any claim or demand specially referred by any committee, shall be examined and certified by the Board of Mayor and Aldermen."

Simply stating that, as here used, there is no such thing as a "Board of Mayor and Aldermen," — the phraseology should be, the Mayor and Board of Aldermen, — I proceed to the important point. If the approval of bills, claims and demands is a legislative function, the power of approval belongs equally to both branches; if, on the contrary, it is an executive duty, it then belongs, by law, solely to the executive department. The Board of Aldermen, with the Mayor, are the legal heirs of the Selectmen of the town. The charter says, "The executive power of said city generally, with all the powers heretofore vested by special statute in the selectmen of the town of Newton, and in the selectmen of towns generally, by the laws of the Commonwealth, shall be vested in and exercised by the mayor and aldermen as fully as if the same were herein specially enumerated." The selectmen, not the citizens, in town days, approved all claims.

As no ordinance can override the law, the result of such an amendment, had it been adopted, would have amounted to nothing, because of its conflict with the statutes. The approval of claims duly contracted, either under the statutes or under the ordinances, is an executive function which belongs to the Board of Aldermen and Mayor. If they see fit, they may employ agents; but neither themselves nor any other power, except the legislature, can divert

the responsibility placed upon them by law to oversee, and, if they deem it necessary, control those agents.

Could this amendment have prevailed, and have been legal, it would have taken from the Board of Aldermen and Mayor all power of decision for or against the validity of claims against the city, and have conferred it upon a joint standing committee composed of one Alderman and two members of the Common Council. This small committee could have rejected, and without appeal, bills contracted and approved by yet larger joint standing committees, or by the City Council, or by the School Committee, or in fact by any power whatever, and this power would hold until the ordinance giving it was amended or repealed. The superior policy and the greater safety to the city of such a course, even were it legal, is not perceptible to me.

The proposed amendment was illegal and consequently failed, and with it failed all hope of improvement for the time to the Ordinance on Finance; therefore, throughout the year, the City Treasurer has been prohibited by ordinance from paying:

1. "Claims certified by the Board of Aldermen;"
2. "Principal or interest due on any note, bond or other security of the City;"
3. Money "in advance on contracts made," or "for work begun and not completed, when payments are due."



Under this ordinance the Mayor has the barren privilege of drawing several kinds of warrants upon the Treasurer, which the Treasurer is, by the same ordinance, forbidden to honor. It requires a clearer head than mine to reconcile these things; they are incompatible and absurd. No difficulty has arisen under this state of facts, because when the legislative power fails, the executive must act; but none the less is this ordinance a discredit to the city, and there are several others which sadly need the exercise of common sense towards their improvement.

If the subject of revising the ordinances should be acted upon, I would advise that from them should be excluded all that is now contained in the State laws. Much of our present ordinances is simply a repetition of the statutes; this is unnecessary, the State does not need that the City should endorse its laws; and it is always desirable to know what is State law and what is City ordinance. I would then, recommend the compilation of a City Register which should contain in connection with each subject of municipal management; first, such extracts from existing laws as bear upon the subject; next, the City ordinances relating thereto.

Again, as last year, I earnestly recommend a careful and thorough revision of the City Ordinances, and that competent legal assistance should be employed.

## FINANCES.

The organization of our City government follows so closely upon the termination of our financial year that it becomes impracticable to give precise and exact figures, the aggregate of the variation can, however, but be very slight in the following statements, and as the Auditor's detailed accounts will be placed before the citizens at a much earlier date than heretofore, I shall give herein only general results.

The financial standing of Newton at the close of business on December 31st, 1878, was as follows:

Total liabilities (excepting water construction,) . . . . .	\$466,682.31
Total assets available, (excepting water construction,) . . . . .	162,043.58
Net City debt, December 31, 1878, . . . . .	304,638.73
Net City debt, December 31, 1877, . . . . .	323,748.12
Net reduction during year 1878, . . . . .	19,109.39
Net water debt, December 31, 1878, . . . . .	777,608.54
Net water debt, December 31, 1877, . . . . .	771,440.59
Net increase during year 1878, . . . . .	6,167.95
Total net indebtedness, December 31, 1878, . . . . .	1,082,247.27
Total net indebtedness, December 31, 1877, . . . . .	1,095,188.71
Net reduction of all indebtedness, . . . . .	\$12,941.44

During the year, \$19,000 of the water bonds have been sold, and the proceeds expended in extending the mains and for other purposes of construction. This net reduction as shown would, except for this investment, have been some \$19,000 larger.

With the hope that it might prove interesting to compare the expenditures of several successive years, one with another, I have carefully gone through the accounts of the several years since February 1, 1870, and have prepared the following table. The method adopted seems the only one under which a true comparison can be obtained; it is, to deduct from the expenditures of each department the receipts earned by each, the result being the net cost to the city of such department. This process absorbs all of the receipts of the city excepting taxes collected. A careful examination of this table will show that our expenses as a city do not compare unfavorably with our former expenses as a town.

# CLASSIFICATION OF EXPENDITURES.

	TOWN. Year ending Jan. 31, 1877. One Year.	TOWN. Year ending Jan. 31, 1872. One Year.	TOWN. Year ending Jan. 31, 1873. One Year.	TOWN. Feb. 1 to Dec. 31, 1873. Includes part of Dec. 1872. About 10 1/2 months.	CITY. Year ending Dec. 31, 1874. Includes part of Dec. 1873. About 1 Year.	CITY. Year ending Dec. 31, 1875. Includes a part of Dec. 1874 and a part of Dec. 1875. About 1 Year.	CITY. Year ending Dec. 31, 1876. Includes a part of Dec. 1875 and a part of Dec. 1876. About 1 Year.	CITY. Year ending Dec. 31, 1877. Includes a part of Dec. 1876 and all of Dec. 1877. About 12 1/2 months.	CITY. Year ending Dec. 31, 1878. One Year.
POOR.—Alms-house and Poor outside of Alms-house, MILITARY.—State Aid, Memorial Day, Burial Grounds, LIBRARIES, . . . . .	\$3,985 10	5,648 32	3,550 11	3,784 50	\$4,659 89	\$10,817 02	\$12,432 76	\$14,256 26	\$8,853 50
POLICE, . . . . .	.....	3,063 80	3,066 08	.....	775 55	2,167 92	1,657 69	1,444 48	1,072 89
LIGHTING STREETS, . . . . .	3,543 84	6,285 72	12,295 02	750 00	1,084 83	6,250 00	1,760 96	1,444 48	1,371 09
FIRE DEPARTMENT, . . . . .	7,874 53	16,641 14	22,048 02	7,488 77	11,084 83	14,161 89	17,131 31	15,199 34	14,601 75
INTEREST on all but Water Bonds, . . . . .	15,286 72	31,172 57	24,659 12	21,049 08	20,668 37	25,052 97	22,071 98	25,875 01	22,194 09
.....	19,143 33	21,139 68	24,858 94	41,615 89	44,688 43	30,757 45	23,681 33	42,478 32	31,707 33
.....	16,500 28	15,381 54	20,987 18	27,554 61	28,514 73	30,200 77	18,949 79	22,826 85	23,805 84
GENERAL { ries, Insurance and Miscellaneous Ex- penses, . . . . .	114,656 87	94,090 86	120,856 45	20,745 51	20,673 42	25,247 66	23,450 04	21,273 77	19,345 51
EDUCATION { Including School Expenditures, . . . . . Including Ordinary Repairs, New Streets, Widening and Altering Streets Drains and Sewers, Sidewalks and Crossings, Culverts, &c., Gravel Land Damages, Public Squares, City Stables Concreting and Curbing, City Engi- neer's Department, Water MAINTEENANCE, including Interest on Water Bonds, . . . . .	40,772 82	52,430 02	91,553 68	99,670 48	156,066 90	153,180 32	83,800 34	82,429 21	65,545 38
WATER SINKING FUND, . . . . .	.....	1,600 00	196 59	.....	.....	.....	.....	.....	30,126 32
CITY DEBT SINKING FUND, . . . . .	.....	.....	.....	.....	.....	.....	.....	.....	12,750 00
New City Hall.—Total cost \$21,872.50; less Public Property sold \$3,805.61, . . . . .	.....	.....	.....	.....	.....	.....	.....	.....	12,250 00
Commissioners on Sewerage, . . . . .	.....	.....	.....	.....	10,138 08	5,928 61	.....	.....	.....
Total Net Expenditures, . . . . .	225,763 49	247,453 65	332,971 20	330,121 41	394,128 40	428,206 71	325,432 78	372,774 69	336,919 53
Taxes Collected, net, . . . . .	186,735 41	219,073 64	286,826 24	318,808 81	370,753 05	367,346 27	357,791 37	358,104 43	356,098 36
Premium and accrued Interest on Bonds sold, Excess of Expenditures over Receipts, . . . . .	39,028 08	28,380 01	46,144 96	11,312 60	23,375 35	39,554 15	.....	14,670 26	.....
Accumulations of Sinking Funds for year, Number of Permanent Police Officers, . . . . .	.....	.....	.....	.....	.....	.....	.....	.....	19,088 83
Number of Street Lights, . . . . .	2	3	8	8	9	9	32,368 59	25,865 21	26,147 00
Number of Teachers, Janitors, &c. (Schools)	436	486	516	520	819	886	21,314 20	1,047	1,084
Number of Miles of accepted Streets, . . . . .	71	73	86	90	96	96	993	96	97
Number of Miles of accepted Streets, . . . . .	87 418	90,000	92,780	95,000	96,1000	97,1000	100,000	101,570	102,000
Net Expenditure for Water Construction, . . . . .	.....	.....	.....	.....	.....	91,083 83	536,810 98	98,882 76	19,714 96

As the last eleven months of the existence of the Town of Newton may have, and probably did, include some unusual expenditures, and as it was not a full year, I have taken for comparison with the year 1878, the last full year of the Town government ending January 31st, 1873; the result is as follows:

*EDUCATION.*

Town year to January 31, 1873, . . .	\$129,856.45
City year to December 31, 1878, . . .	85,295.83
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Reduction, . . . . .	\$44,560.62

The expenditures for new school-houses and lands in 1872-3, were \$44,050.25, against but about \$1,500 of similar expenditures in 1878. This would leave the actual reduction of 1878 below 1872 at \$2,010.37. Number of teachers and janitors in 1872, 86; in 1878, 97.

*HIGHWAYS, ETC.*

Town year to January 31, 1873, . . .	\$91,553.68
City year to December 31, 1878, . . .	65,545.38
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Reduction, . . . . .	\$26,008.30

The miles of accepted streets have increased from 92<sup>789</sup>/<sub>1000</sub> to 102<sup>014</sup>/<sub>1000</sub>. Sidewalks, drains, crossings, etc., have been greatly increased since the year 1872, and each year, to keep them in proper order, costs a considerable sum.



*FIRE DEPARTMENT.*

Town year to January 31, 1873, . . .	\$24,559.12
City year to December 31, 1878, . . .	31,707.33
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Increase, . . . . .	\$7,148.21

In 1872 an engine-house was built at a cost of \$9,797.00, while in 1878 was built an engine-house at a cost of about \$6,000. In 1878 the Fire Department paid to the Water Department \$5,000 for the use of hydrants. In 1872 there was no such charge; in those days at fires we generally did without water. These items deducted, reduces this increase to \$5,945.21, against which the efficiency of the service has been largely increased.

*LIGHTING STREETS.*

Town year to January 31, 1873, . . .	\$22,048.03
City year to December 31, 1878, . . .	22,194.09
	<hr/>
Increase, . . . . .	\$146.06

In 1872 there were 516 street lamps, against 1,084 in 1878.

*POLICE.*

Town year to January 31, 1873, . . .	\$12,295.02
City year to December 31, 1878, . . .	14,601.75
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Increase, . . . . .	\$2,306.73

The number of permanent men in 1872 was 8; in 1878, 15.

*ALMSHOUSE AND POOR.*

Town year to January 31, 1873, . . . .	\$3,550.11
City year to December 31, 1878, . . . .	8,853.50
Increase, . . . . .	<u>\$5,303.39</u>

*NEWTON FREE LIBRARY.*

Town year to January 31, 1873, . . . .	0.00
City year to December 31, 1878, . . . .	7,371.09
Increase, . . . . .	<u>\$7,371.09</u>

*INTEREST ON CITY DEBT.*

Town year to January 31, 1873, . . . .	\$24,858.94
City year to December 31, 1878, . . . .	23,805.84
Reduction, . . . . .	<u>\$1,053.10</u>

*WATER MAINTENANCE AND INTEREST.*

Town year to January 31, 1873, . . . .	\$196.59
City year to December 31, 1878, . . . .	30,126.32
Increase, . . . . .	<u>\$29,929.73</u>

*SINKING FUNDS.*

Town year to January 31, 1873, . . . .	0.00
City year to December 31, 1878, . . . .	\$25,000.00
Increase, . . . . .	<u>\$25,000.00</u>

*SEWERAGE COMMISSION.*

Town year to January 31, 1873, . . . .	0.00
City year to December 31, 1878, . . . .	\$2,000.00
Increase, . . . . .	<u>\$2,000.00</u>

*ALL OTHER EXPENDITURES.*

Town year to January 31, 1873, . . . .	\$24,053.26
City year to December 31, 1878, . . . .	20,418.40
Reduction, . . . . .	<u>\$3,634.86</u>

The total net expenditures for town year to January 31, 1873, were . . . . \$332,971.20

Deduct cost of schoolhouses, etc., \$44,050.25

Deduct cost of engine house, . . . 9,797.00

53,847.25

Leaving as the ordinary expenses of 1872-3, \$279,123.95

The total net expenditures for city year to Dec.

31, 1878, were . . . . \$336,919.53

For purpose of comparison deduct as follows :

Cost of schoolhouses, . . . . \$1,500.00

Cost of engine house at Upper Falls, 6,000.00

Cost of poor, excess of 1878 over

1872-3, . . . . 5,303.39

Newton free library, new expense, . 7,371.09

Water maintenance, " . 30,126.32

Use of hydrants by fire department,

new expense, . . . . 5,000.00

Sewerage commission, new expense, 2,000.00

Sinking funds, new expense, . . . 25,000.00

\$82,300.80

Leaving as the corresponding ordinary expenses

of 1878, . . . . \$254,618.73

Reduction in favor of 1878, . . . 24,505.22

The gain of 1878 over 1877, to the citizens of Newton, cannot be fully shown without the introduction of another point, which is, that in 1878,

The total assessment of taxes upon the citizens

was, . . . . \$378,057.64

While in 1877, it was, . . . . 394,111.95

Decrease in amount assessed, . . . 16,054.31

Add reduction of City debt as previously stated, 19,109.39

Actual gain of 1878 over 1877, . . . 35,163.70

## SINKING FUNDS.

Upon January 1, 1879, the Water Loan Sinking

Fund consisted of 19 of its own bonds at par,	\$19,000.00
In cash, . . . . .	16,706.55
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Total accumulation, . . . . .	\$35,706.55

The City Debt Sinking Fund consisted of 21 City

of Newton Water bonds, at par, . . . . .	\$21,000.00
In cash, . . . . .	16,927.83
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Total accumulation, . . . . .	\$37,927.83

Total accumulation of both funds, . . . . .	\$73,634.38
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Towards this amount the City has contributed three annual payments, as follows:

November 30, 1876, . . . . .	\$21,344.20	
November 30, 1877, . . . . .	25,000.00	
November 30, 1878, . . . . .	25,000.00	
	<hr/>	\$71,344.20
Accumulations in addition to cash supplied,		\$2,290.18

At simple interest, rated at three per cent. per annum, these payments would have yielded \$2,209.01. Making proper allowance for premium paid on bonds purchased, it appears to me that, consistently with ample security, these sinking funds, gathering interest upon interest, should result in a greater accumulation than at the rate of three per cent., figured as simple interest.

I find upon examination of the accounts of the sinking funds, that upon November 30th, 1877,

(besides the \$21,000 bonds previously purchased,) there was on hand in cash \$25,607.83; to this, on January 1st, 1878, was added collections amounting to \$601.58. From these two amounts, on January 31st, 1878, \$10,391.67 was invested in ten City of Newton water bonds. The balance, \$15,817.74, remained on deposit in bank until September 9, 1878; it then, with accumulation, amounted to \$16,914.10; upon the latter date, \$9,400 was paid for nine City of Newton water bonds. The remainder, \$7,514.10, with the \$25,000 due November 30, 1878, remains uninvested to the present time.

These bank balances draw interest at the rate of 2 1-2 per cent. per annum. I believe that the money should have been used to better advantage. All the expenses of the sinking funds are paid by the city. They are not liable to sudden calls for outlay. Their only use for money is for investment; and I believe if promptly and properly invested, it could be made to yield a much higher rate of interest than 2 1-2 per cent., which rate only was earned on \$25,607.83 from Nov. 30, 1877, to Jan. 1, 1878; on \$26,209.41 from Jan. 1, 1878, to Jan. 31, 1878; on \$15,817.74 from Jan. 31, 1878, to Sept. 9, 1878; on \$7,514.10 since Sept. 9, 1878.

During this entire period, the city has been obliged to borrow money and pay four per cent. per annum

for its use. It could, except for the prohibition of the law, have paid this higher rate to the sinking funds; the law, however, forbids the Commissioners to loan to the city.

I hope we may soon have a Board of Commissioners to govern the investment of \$33,634.38, which is now earning but 2 1-2 per cent.

### SCHOOLS.

The net payments for educational purposes in						
1877, were	.	.	.	.	.	\$84,716.21
In 1878, they were	.	.	.	.	.	85.295.83
Increase over previous year,						<hr/> 579.62

The standing of our schools is second to those of no other city or town in the State, this is due to the efficient labors of the School Committee and the Superintendent of Schools, and to the general excellence of the teachers. The annual report of the School Committee, soon to be published, will fully inform our citizens in relation to school affairs. I would especially call attention to facts which will therein be given, showing that the cost per pupil runs very low in Newton, compared with many other towns and cities. The City and the schools have suffered a great loss through the resignation of the Rev. Bradford K. Peirce, for four years the very efficient chairman of the school committee.



## HIGHWAYS.

In this department I include all expenditures which are under the management of the several committees on highways.

During 1877, the net cost was	.	.	.	\$74,502.75
During 1878, the net cost was	.	.	.	65,545.38
				<hr/>
Decrease below previous year,	.	.	.	\$8,957.37

During the past year the expenditures of this department have been confined to things absolutely necessary to be done, viz: such repairs as were needed to prevent deterioration; such work as seemed necessary to avoid litigation; and sufficient employment for deserving citizens to enable them to escape pauperism.

Experience can alone show if it be possible yet farther to reduce the expenditures of this department. The requirements of the law must be obeyed or the same danger and trouble from which we have not ceased to suffer since we became a city, and from which we are now escaping, will be repeated. I allude to the action and orders of the County Commissioners.

Previous to the year 1872, the town did not grant sufficient money for the proper repair of the highways, nor did its votes meet the wishes of some citizens in the laying out, widening and improvement of highways. Appeals to the County Commissioners

were frequent, and despite the urgent remonstrances of the Town authorities, were too often successful. Many very expensive and some very unnecessary widenings, layings out and improvements were ordered. These orders the Town and City were forced to obey and carry out, under the penalty of having the work done at their expense and yet not under their control. The action of the citizens in Town meetings was also left to the City as a legacy. Then it was not a very difficult matter, by careful management, to procure a vote laying out a street at the expense of the Town, which, when built, served principally to enhance the value of private lands, and was of small consequence to the Town.

The following list of expenditures made by the city in carrying out the orders of the County Commissioners and of the town, may prove interesting; at all events it will enable our citizens to appreciate the fact that much of the expenditure upon highways since we became a city, is not fairly blamable upon the City Government.

*ORDERED BY COUNTY COMMISSIONERS.*

	LAI D OUT.	<i>Cost to City.</i>
Concord Street, width 50 feet, length 3,400 feet,	.	\$2,200.00
Needham Street, width 60 to 86 feet, length 5,600 feet,		22,589.00
Valentine Street, width 50 feet, length 3,900 feet,	.	9,911.00
Amount carried forward,		<hr/> \$34,700.00















Amount brought forward, . . . . . \$34,700.00

## WIDENED.

Beacon Street, from 50 to 70 feet, . . . . .	8,660.00
Crafts Street, from 40 to 50 feet, length 550 feet, . . . . .	532.00
Homer Street, to 50 feet, length 5,600 feet, . . . . .	500.00
North Street, to 50 feet, length 3,000 feet, . . . . .	575.00
Walnut Street, to 50 feet, length 14,600 feet, . . . . .	18,681.00
Waltham Street, to 50 feet, length 4,300 feet, . . . . .	16,151.00
Watertown Street, 49½ to 60 feet, length 5,520 feet, . . . . .	250.00

## STRAIGHTENED.

Centre Street, length 1,700 feet, . . . . .	650.00
Washington Street, length 3,600 feet, . . . . .	1,000.00

## GRADE CHANGED.

Chestnut Street, . . . . .	1,906.00
Parker Street, length 800 feet, . . . . .	3,212.00

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Total expended under orders of County Commissioners, \$86,817.00

## ORDERED BY TOWN VOTES.

## LAID OUT.

Lake Avenue, width 40 feet, length 3,000 feet, . . . . .	\$6,546.00
Lyman Street, width 40 feet, length 600 feet, . . . . .	500.00
Newtonville Avenue, width 40 feet, length 2,500 feet, . . . . .	437.00
Walnut St. Extension, width 50 feet, length 2,500 feet, . . . . .	4,271.00

## WIDENED.

Cypress Street, to 50 feet, length 3,000 feet, . . . . .	1,509.00
Fuller Street, 33 to 50 feet, length 4,500 feet, . . . . .	9,440.00
Station Street, to 50 feet, length 3,100 feet, . . . . .	1,700.00
Sumner Street, to 50 feet, length 400 feet, . . . . .	500.00

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Total expended by City under votes of Town, . . . . . 24,903.00

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An aggregate cost to the City of . . . . . \$111,720.00

Some of this expenditure was doubtless wise and judicious, but very much of it was not only unnecessary, but detrimental. A road which is seldom used

for business purposes, does not need to be so very wide, so very straight, and so very uninteresting.

So long ago as the years 1869 and 1870, and it may have been longer, I believe it to have been the unanimous opinion of the Selectmen, that true economy demanded that the roadbeds should, even at a heavy first cost, be put in good condition; such condition as must in the future greatly lessen the annual cost of keeping them in that condition. As rapidly as was practicable this policy was acted upon. Of course the improvement has been gradual, but, in my belief, the present small annual cost of repairs, and it is small in comparison with the past, and considering the added length and improved condition, is made possible solely through the policy of commencing with thorough work.

To keep in order 140 miles of road, and as the law commands "make them passable and convenient for travellers at all seasons of the year," *must* cost considerable money.

#### HEALTH.

Again, I urge upon the City of Newton, greater attention to this important subject. I have not, however, the courage to repeat arguments now grown stale from long neglect. I fear the awakening will not come until the penalty of neglect shall have been suffered.



During the past year we have paid the sum of \$2,000, for expenses incurred by the Commissioners on Sewerage. Surveys have been made under their direction, and I presume a complete system has been decided upon, but the subject now lies dormant. I presume its absolute necessity, and at no distant day, will be admitted by all thoughtful citizens, if so, would it not be good business policy to proceed with it soon, while laborers need work and money continues plentiful and cheap. This expenditure seems to me unavoidable.

#### POLICE.

During the year one permanent officer has been added to the force, so that the head station at City Hall is never without an officer on duty by night and day. The year has proven a quiet one, and the duties of this department have been performed with great efficiency.

#### FIRE DEPARTMENT.

A new engine house, with accommodations for the uses of the highway department, has been built during the year, at the Upper Falls, at a cost of about \$6,000.

I renew the recommendation that the appointment of the engineers and permanent men of this department shall be placed upon the same footing with that

of the police, the term of office to be “during the pleasure of, and until removed by the Mayor and Aldermen.” This change would benefit the City by giving greater permanence to the positions, with no additional cost; it would make the positions themselves more desirable, because they could only be disturbed for cause. As it now stands, the caprice of one man by refusing a nomination, may throw any of these incumbents out of their situations, while under the change proposed, the Mayor and Aldermen together, will have all necessary power to remove for cause.

The department is in most excellent working order, the men generally take great interest and pride in the associations with which they are severally connected. The promptitude in attendance at fires has been very commendable.

#### OVERSEERS OF THE POOR.

The net cost for the maintenance of the Almshouse						
and for the Poor out of the Almshouse, in						
1877, were	.	.	.	.	.	\$12,296.21
In 1878 they were	.	.	.	.	.	8,853.50
						<hr/>
Reduction,	.	.	.	.	.	\$3,442.71

This reduction is largely due to the fact that we collect much more than formerly of the amounts we are entitled to recover from the State, and from other cities and towns. Also the income from the almshouse and its farm has increased.

Early in the year 1878, there arose a pressing demand for work, from deserving citizens who had never asked alms from the city, but were then in imminent danger of being forced to do so. This emergency was met and the manufacture of paupers avoided, by doing certain work upon the highways, which was not intended to have been done at present, but which could not have been postponed much longer. This demand for work did not continue; later in the season employment seemed more plenty, and I think the signs indicate that the expenses in this department will be lessened in the future.

## ASSESSORS' DEPARTMENT.

The total valuation of our city upon May 1, 1877, was as follows:

Real Estate, . . . . .	\$20,007,025.00
Personal Estate, . . . . .	6,627,488.00
Corporate Stocks, . . . . .	1,007,000.00
Bank Stocks, . . . . .	862,000.00
	<hr/>
Total valuation, . . . . .	\$28,503,513.00

The total assessments were \$394,111.95; and the rate of taxation was \$13.60 on \$1,000.

The total valuation of our city as of May 1, 1878, was as follows:

Real Estate, . . . . .	\$18,604,105.00
Personal Estate, . . . . .	6,408,825.00
Corporate Stocks, . . . . .	1,150,000.00
Bank Stocks, . . . . .	850,000.00
	<hr/>
Total valuation, . . . . .	\$27,012,930.00

The total assessments were \$378,057.64; and the rate of taxation was \$13.80 on \$1,000.

The reduction of valuation below the previous year was \$1,490,583.00. This reduction increased the rate of taxation from \$13.60 upon \$1,000, to \$13.80 upon \$1,000, although the tax levy itself was \$16,054.31 less in 1878 than in 1877. The true test is,—how much money are the citizens called upon to pay? In 1878 they were called upon for \$16,054.31 less than in 1877, and in addition, after meeting all expenditures, the net indebtedness has been reduced \$19,109.39,—a total net gain to the citizens of \$35,163.70.

The really important question connected with the rate of taxation is, suppose the amount assessed had precisely met the net cost for the year, what would have been the rate of taxation? The reply to this query would change the rates of taxation per \$1000, as follows:

					ACTUAL.	
Year to February 1, 1871,	advance	from	\$12.20	to	\$14.79	
“ “ “ 1, 1872,	“	“	11.20	“	13.16	
“ “ “ 1, 1873,	“	“	13.50	“	15.62	
11 months to Dec. 31, 1873,	“	“	14.50	“	15.09	
Year to December 31, 1874,	“	“	13.00	“	14.20	
“ “ “ 31, 1875,	“	“	13.50	“	15.08	
“ “ “ 31, 1876,	reduce	“	13.60	“	12.82	
“ “ “ 31, 1877,	“	“	13.60	“	12.63	
“ “ “ 31, 1878,	“	“	13.80	“	12.32	

Until the year 1876, the Town and City, in each of the years named, failed to assess a sufficient

amount to meet expenditures, and consequently in each year increased its indebtedness. After the passage of Chapter 209 of the Acts of 1875, "for the purpose of regulating municipal indebtedness," this practice was not only necessarily discontinued, but in addition, that law provides that sinking funds shall be established to the end that indebtedness may be gradually, but certainly, liquidated.

As the valuation affects the rate of taxation, it should be understood that the total valuation of May 1, 1878, was less than that of May 1, 1873, by the sum of \$1,189,672.00, and less than the valuation of May 1, 1875, which was the highest valuation reached, by \$4,131,968.00.

Experience has taught that the increased valuation of the assessors, over that of May 1, 1873, was fallacious, which opens another significant question. What would have been the rates of taxation if the present valuation had been the same during those years, and a sufficient amount assessed to meet the net cost of each year? The answer is as follows:

11 months to Dec. 31, 1873, advance from \$14.50 to \$15.76							
Year to December 31, 1874,	"	"	13.00	"	16.00		
" " " 31, 1875,	"	"	13.50	"	17.39		
" " " 31, 1876,	"	"	13.60	"	14.47		
" " " 31, 1877,	reduce	"	13.60	"	13.32		
" " " 31, 1878,	"	"	13.80	"	12.32		

It is evident to me that this last estimate of what would have been the proper rate of taxation to have

met the expenditures, is precisely just, and that the present higher rate per thousand, is simply because of the lower valuation, and because the law now requires that provision shall be made by taxation for the liquidation of indebtedness, in lieu of evading taxation and annually increasing indebtedness.

Again, in comparing the rates of taxation of the last four years, with those of previous years, it should be borne in mind that until 1876, we had no deficit of water maintenance and its interest to provide for, and that previous to 1875, there was no free library, these make no slight addition to the expenditures of these later years; deduct the net cost of these two items from the expenditures of 1878, and a tax levy of \$10.94 upon each \$1,000 would have met those expenditures.

#### NEWTON FREE LIBRARY.

The management of this institution continues to elicit the warm approval of the citizens. The advantages gleaned from it far exceed in value the small amount of its annual cost. I feel grateful to that law which places its continued usefulness beyond doubt, and commands that it is "to be forever maintained by said city." The report of the trustees will convey the desired detailed information relating to its affairs.



## STREET LIGHTS.

Thirty-seven lights have been added within the year. The whole number is now 1,084; of these 711 are supplied by gas, and 373 by naphtha. Net expenses in 1877, \$21,648.37; in 1878, \$22,194.09.

## WATER DEPARTMENT.

The net expenditures for construction purposes for the year 1878 have been \$19,714.96. For water maintenance, the difference between the expenditures, including the interest on the water bonds, and the receipts, has been \$30,126.32, a gain over last year of \$1,249.54.

## MILITARY.

Our militia company has of late languished. There does not seem to be such strong and healthy interest among its members as is desirable. Its numbers are small; its roll shows but forty-one members, just the minimum number permitted by law, falling below which it becomes liable to disbandment. New members, new energy, and greater interest are imperatively demanded, if the organization is to continue and be a credit to the city. Newton has the material in excess, and should easily maintain one of the finest companies in the State. I sincerely hope that our young men will take the matter in hand, and place the company upon a strong footing.

## FINANCIAL YEAR.

Without repeating some of the arguments made last year, I renew the recommendation to change the close of the financial year from December 31st to April 30th. As we now conduct our business, we virtually live on temporary credit. Our taxes, as soon as collected, are needed to pay the temporary loans incurred during the year; already we have used all the taxes we have collected, and have borrowed \$80,000 until next November.

My recommendation is that we shall borrow permanently about \$100,000, and with it meet the expenses of the first four months of this year. Briefly, the reasons in favor of this course are as follows:

1st. You owe no more money in the one case than in the other, and you change a floating debt into a funded debt.

2d. Appropriations will be made, as the law intended they should be, for a year, the whole of which is in the future, and not as now, for a year, one-third of which is in the past.

3d. Taxes being collectable, as now, on 1st November, it will bring the receipts much nearer to the expenditures, thus saving interest.

4th. All appropriations now end with the financial year, upon the 31st day of December, each succeeding City government starts, as you do to-day,



without one dollar appropriated. Until some money *is* appropriated no expenditure can be made under the rules of the City ordinances.

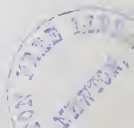
5th. The change would conform the tax with the period for which the tax is assessed. Incomes are now assessed from May 1st to April 30th, as a part of the assessment to cover the City's wants from January 1st to December 31st.

6th. The financial year will then conform to that of Boston. As it now is, a resident of Newton removing to Boston, on the 1st day of January, escapes four months taxation, whereas a resident of Boston, removing to Newton at the same date, must pay four months taxes in both places.

It seems incomprehensible to me that the law does not arbitrarily fix the termination of the financial year at the same period in all cities and towns throughout the State, and thus insist upon uniformity in this important particular. If Newton, however, must continue to be odd in not consulting its own comfort and convenience, would it not be well so to change that taxes might be escaped by coming to us, instead of the precise contrary, as now.

#### APPROPRIATIONS AND EXPENDITURES.

We have been elected to the several offices of Common Councilmen, Aldermen and Mayor; the authority which has created these offices by the



passage of an act called the City Charter, has also passed many other acts bearing upon and controlling the powers and duties of these offices. We, the incumbents of those offices, have sworn that "to the best of our ability and understanding," we will obey the laws of the State. This oath is required by the Constitution of Massachusetts, and must be taken before we can be qualified to perform our several duties. Ordinances or orders passed by the City Council must be in accord with these Statutes or their provisions are null and void; the creature of the Statutes cannot make rules to supersede those of its creator.

The attempted legislation of the past year has plainly shown that many members of the City Council largely confine their studies in municipal affairs to the City Ordinances, instead of going to the fountain-head and endeavoring to become reasonably conversant with the laws of the State. Among other erroneous opinions, is one to the following effect: if no money is appropriated by the City Council, no money can be lawfully expended for any purpose whatever. Were this opinion correct, the failure to pass the annual appropriation order would result in an immediate and complete barrier to all expenditures, the City would become unable to pay its debts or fulfil any one of the many obligations placed upon it by the laws which created its government.

Either branch of the City Council would have an absolute veto upon very many of the laws of the State, which say that town and cities, *shall* for many purposes, appropriate money. The language of Chapter 209 of the Acts of 1875, shows plainly that money which has not been appropriated, may nevertheless lawfully be expended, it is as follows: "The assessors of cities and towns shall each year assess taxes to an amount not less than the aggregate of all sums appropriated, granted, or lawfully expended."

Should no appropriation whatever be made by the City Council, there would yet be many payments and expenditures that could and must be made, and in various ways the laws provide that they *shall* be made. In some places the laws empower the overseers of the poor to do what it says shall be done; in others surveyors of highways, school committee, assessors, board of health, city clerk, city treasurer, police department, board of aldermen, mayor. All of these have more or less of executive power directly bestowed upon them by law, a power which, in case the legislative body fails to make the necessary provision required by law, these officers are severally ordered to use under personal penalty in some cases; in others, penalties upon the city if they neglect or refuse to do so.

This erroneous opinion seems to result from Section twenty-three of the City Charter, which has

been often quoted in support of the opinion and which reads: "The City Council shall take care that no money is paid from the treasury unless granted or appropriated." These words are construed to mean that until money is appropriated, none can or should be expended. If this construction had been intended by law, the phraseology would have stated directly that appropriations must first be made before money can be paid; this it does not do, and if it did, it would stultify and render null and void one-half the statutes that now apply to municipal expenditures.

Again, if this only had been intended, the duty of preventing such payments would have been laid upon the auditor or city treasurer, instead of upon the city council.

This clause of the City Charter places a distinct duty upon the City Council and means simply this:—

1st. Whenever the statutes say that expenditures *shall* be made for certain purposes, the city council shall "take care" that suitable appropriations are ready to meet them.

2d. Whenever expenditures *may* be lawfully made by authorities having the power conferred upon them by statute, the city council shall "take care" to make the necessary appropriations.

3d. The pecuniary obligations of the city, promissory notes, bonds, interest when due, judgments, etc., *must* be paid and the city council should "take

care" that the necessary appropriations are made in time to meet the need.

In the endeavor to make manifest that no one portion of the City government has the power, by the refusal of appropriations, to block the wheels of municipal government, I shall briefly comment upon some of the expenditures which cannot be refused or avoided. I am no lawyer, and may be in error as to some of the conclusions to which I have arrived, I only claim that I have give much time and thought to the study of these questions, and believe that my conclusions are correct.

1. The Statutes say that the city *shall* elect or appoint and *shall* pay seven wardens, seven ward clerks, twenty-one inspectors of elections, one clerk of common council, one mayor, one treasurer and collector, one city clerk, seven overseers of the poor, three assessors, seven assistant assessors, and such police and subordinate officers as the mayor and aldermen may appoint. To these the city ordinances, which, until repealed, have equal force, add, one superintendent of streets, one city solicitor, one city auditor, one city marshal, one city engineer, 1 city messenger, and the employees of the fire department.

2. The board of health has power under the statutes to order very many expenditures (which I



shall not here and again enumerate), and the city must pay such portion as is assessed upon it.

3. Elections must be held and the expenses paid; city officers, safes, city records, etc., are positively ordered by law; sinking fund payments *shall* be made; the poor *must* be supported or relieved; the rent of an armory, and fuel and lights for the same, is peremptory; the Newton free library must "be forever maintained by said city;" a sufficient number of schools must be supported, to accommodate all legal pupils, and a high school must be maintained; highways must be kept in repair; highways must be laid out, widened or improved, when ordered by the county commissioners; city obligations, interest, judgments, etc., must be paid; land damages must be paid; additional pay for indigent soldiers and sailors must be raised and paid; sidewalks, drains and sewers may be ordered by the mayor and aldermen and when so ordered must be paid for.

There are yet other expenditures which the law commands. Is it presumable, therefore, that the mere refusal to appropriate in accordance with the commands of the law, is not provided for by the law? In case of the failure or refusal of the City Council to "take care" that proper appropriations are made, the law either throws the duty, with penalties for its non-performance, upon some official or board, or

exacts a penalty from the City, or provides for its settlement through the courts.

If money is not appropriated for schools, the law mulcts the City for twice the amount it has ever previously appropriated in any one year for schools. If the repairs of highways are neglected, the surveyors of highways are held personally liable for all damages incurred in consequence of their defects, and so on throughout the whole category.

In fact the statutes seem to divide the expenditures of the city into two classes: the first, which embraces money obligations and all matters that affect others than its own citizens, it peremptorily insists upon. The second class seems to embrace such things as affect its own citizens alone. You may allow the houses of your citizens to be destroyed by fire, rather than pay a fire department; you may refuse to light your streets or support your water works, or appropriate money to celebrate memorial day.

To ensure that wherever and whenever the law says money *shall* be expended for any purpose, the command shall be obeyed, it is provided that some officer or some board shall have the requisite power, and in case of the neglect or refusal of the city council, shall exercise the power.

If these things are not as they should be, if more power should be given to one branch and less to another, the only possible remedy is for the Legis-

lature to change the law; we have not the power to do it.

Up to the year 1878, the City Council made no appropriations whatever until from three to four months' expenditures had been actually paid or incurred. It is eminently improper that any payments should be made until the appropriation has either been made, or has been asked for and refused. In this latter event, if the debt has been legally incurred by the authority recognized by law, it must be paid; it then becomes the duty of the assessors to add it to the next tax levy as an amount "lawfully expended."

All appropriations die with the financial year. there are now no appropriations whatever. One of your first duties will be to supply this want.

A few words in relation to the Annual Appropriation order. This is each year a great cause of contention, and, it seems to me, unreasonably. A part of the evil arises from the practice of appropriating the entire amount in one order. This results in a disagreement between the two branches upon some of the items, which disagreement has thus far been overcome by a barter trade, under which one body waives a portion of its honest conviction, provided the other body will similarly stultify itself; and meantime the entire order rests in danger of defeat from the expiration of the time after which it cannot



legally be passed. Would it not be a preferable course to act upon each item separately, and if both bodies are agreed, pass it finally, so that the success or failure of any disputed item will not involve the failure of all the appropriations.

The appropriation now made under the head of "Public Property," is objectionable, it should be subdivided and treated as the expenditure of the department to which it belongs, otherwise we do not truly learn how much our schools, fire department, library or other matters do actually cost. Besides this, it is a novelty and as such precludes just comparisons with the former statements of the Town and City. It should be apportioned to the several departments for whose benefit it is used.

#### CITY CHARTER.

In Massachusetts, the charter of cities have closely followed one form, and that, in my opinion, could be greatly improved. Last year I recommended a longer term of service for the Mayor and members of the City Council, I now renew that recommendation and suggest that a commission of citizens be appointed to consider carefully and report an improved form for a City charter.

I should like to see Newton lead in an attempt to procure a charter which should be a model and sim-

plify the method of conducting municipal government.

The work of collecting the revenue is all done by the assessors and treasurer, there remains the duty of properly expending it.

The total yearly amount is about \$390,000; from this deduct fixed payments such as interest, sinking funds and use of hydrants, \$107,000—and there remains \$283,000 to be expended by the several disbursing agencies, these are as follows: one Mayor, seven Aldermen, fourteen Common Councilmen, fourteen School Committeemen, seven Overseers of the Poor, five Trustees of the Library, forty-eight in all. Does our small expenditure need so much advice and assistance?

#### CITY GOVERNMENT.

Upon some one or another board or officer of the City, the law places the responsibility for the proper performance of each and every duty. Committees are unknown to the law, and each and all of them are responsible for their actions to that officer or board of the City upon whom or which, the State imposes the duty. Committees are simply the agents of some other portion of the government, and that other portion can only be the particular board or officer empowered for that especial purpose by the State.

No board or officer entrusted with duties and the power to perform such duties, by the State, can alienate those powers or those duties; the responsibility must rest with those and those only upon whom the law places it. Agencies in the form of committees may be used, but the responsibility for the acts of such agents cannot be evaded, the holders of the power should and must at all times keep control of its agents.

The legislation of the last year has plainly shown that constant attempts have been made by a majority of the Common Council to procure powers which the Statutes confer upon the Board of Aldermen. From this cause, the greater powers conferred by law upon the Board of Aldermen, has grown a jealousy of that branch, which should, for such cause, have no place in municipal affairs. In addition to the proposed amendment to the Finance Ordinance already alluded to, I cite another case in point.

The Legislature, session of 1878, enacted a law providing for additional pay to indigent soldiers and sailors, this additional pay the law says distinctly shall be paid "under the direction of its Mayor and Aldermen," and then goes on to say that "all sums of money so paid out or expended shall be reimbursed by the Commonwealth."

The law says that money *shall* be raised for this purpose, in accordance therewith an order originated

in the Board of Aldermen appropriating money, this order was returned from the Common Council with an amendment passed by that body to this effect, "provided that the money shall be disbursed by the Committee on State Aid," or words to that effect. This amendment ignored entirely the power given by law to the Mayor and to the Aldermen, and would, if it were passed and were legal, have substituted for the Mayor and Aldermen, a Committee composed of one Alderman and two members of the Common Council. Again, if it had passed and the matter had been understood by the State authorities, the money paid out under the law could not have been recovered from the State, because it would not have been disbursed in the manner required by the provisions of the law. Both the Mayor and Board of Aldermen intended to employ the Committee on State Aid as agents; to this there was no possible objection, but neither the Mayor nor the Aldermen had the power, even if they had the inclination, to substitute that committee and alienate to that committee their own powers and the duties imposed upon them by the Legislature.

Similar legislation has, during the year 1878, been the rule rather than the exception; in this case, the Common Council receded from its action, nevertheless it was such legislation as should never passed its own body.

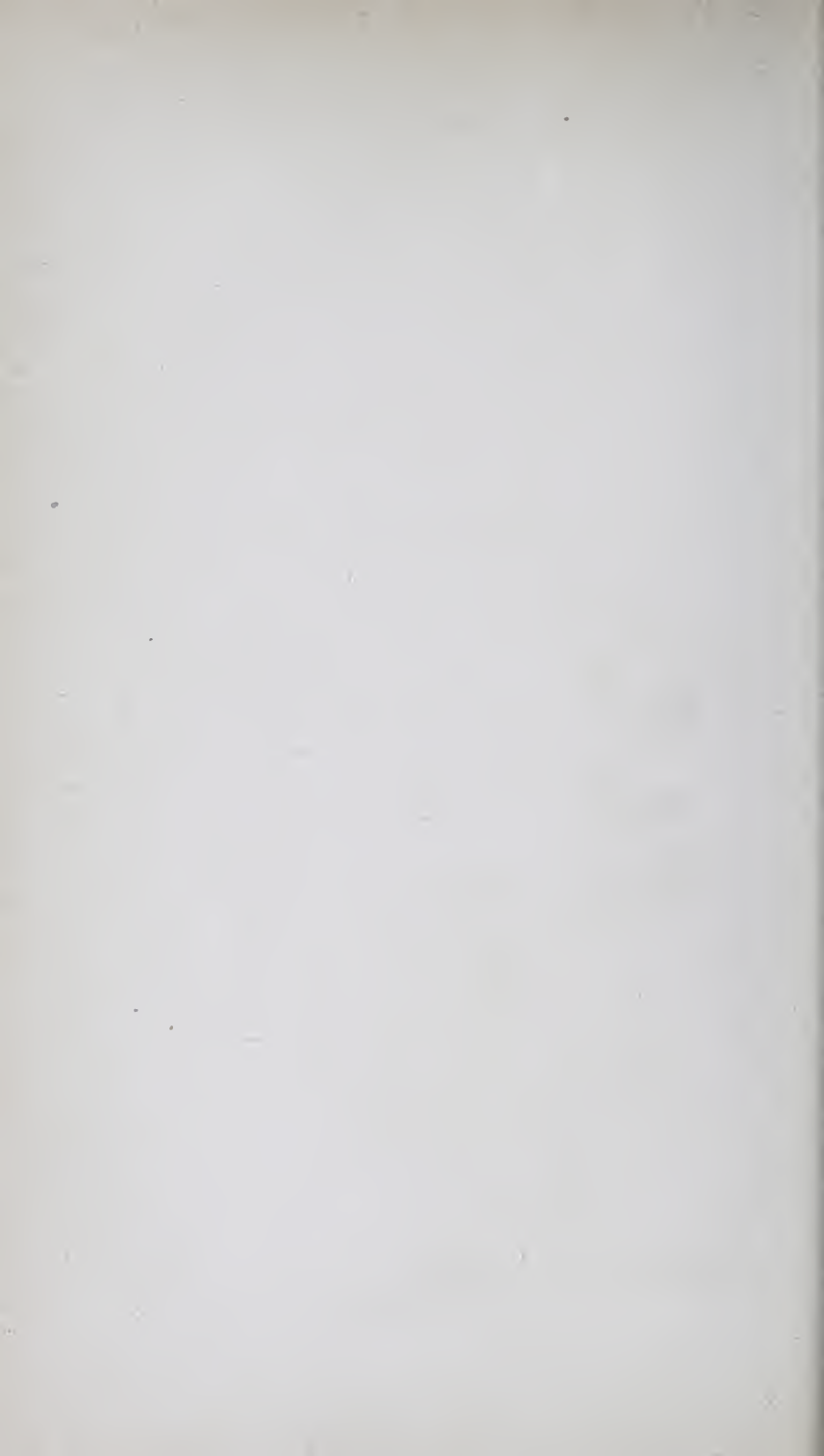
Members of the Common Council have this day sworn "to the best of their ability and understanding" to perform the duties of a Common Councilman; Aldermen have, in the same words, sworn to perform the duties of an Alderman, and the Mayor has, in a similar manner, sworn to perform the duties of a Mayor. The laws establish the duties of these several positions. To the study of the Statutes we must look for a knowledge of those duties and of the power essential to their performance, and none of us have the right to waive or alienate any portion of those duties. The Mayor and Board of Aldermen have no more right and power to say, we transfer to the Committee on State Aid, all our rights and duties under the law affording additional pay to indigent soldiers and sailors, than has the Common Council to invite twenty-eight citizens to vote with them upon the subject of appropriations, and agree to abide by the result; and those citizens not being invited, have as good reason for jealousy as has the Common Council at not receiving from the Board of Aldermen, powers which that Board has not the right to bestow.

If the Mayor and all the members of the City Council of 1879, will carefully and earnestly enlighten themselves upon the points of municipal government, that principal cause of ill-feeling, which in 1878, defeated many useful measures, provoked personal attacks and destroyed all harmony, will sink into the oblivion it deserves.









AUDITOR'S ANNUAL REPORT  
OF THE  
FINANCES  
OF THE  
CITY OF NEWTON

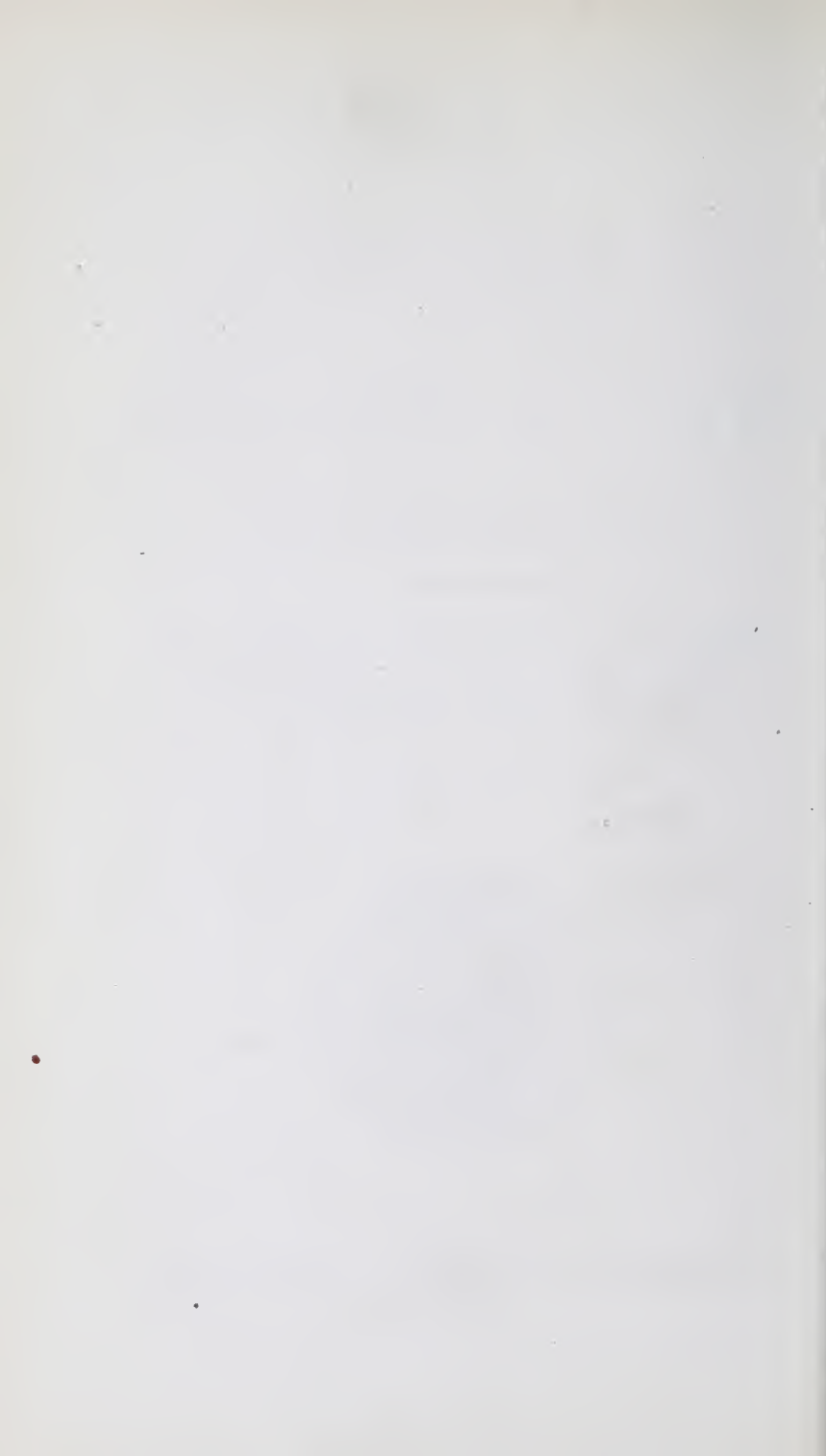
*For the Year ending December 31, 1878.*

TOGETHER WITH  
REPORTS OF THE CITY CLERK, THE  
OVERSEERS OF THE POOR, AND  
THE CITY MARSHAL.

No. CC.



BOSTON:  
L. F. LAWRENCE & CO., PRINTERS, DEVONSHIRE STREET.  
1879.



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OFFICERS  
OF THE  
NEWTON CITY GOVERNMENT,  
1878.

---

**Mayor.**

WILLIAM B. FOWLE.

**Aldermen.**

JAMES F. EDMANDS, *President.*

WARD ONE.

F. G. BARNES.

WARD THREE.

ELIJAH W. WOOD.

WARD FIVE.

OTIS PETTEE.

WARD TWO.

W. W. KEITH.

WARD FOUR.

WM. I. GOODRICH.

WARD SIX.

JAMES F. EDMANDS.

WARD SEVEN.

GEORGE S. BULLENS.

COMMON COUNCIL.

GEORGE E. ALLEN, *President.*

WARD ONE.

GEORGE E. PIKE.

C. BOWDITCH COFFIN.

WARD THREE.

GEORGE E. ALLEN.

JOS. B. WHITMORE.

WARD FIVE.

HORACE BACON.

GEO. D. ELDRIDGE.

WARD TWO.

J. WESLEY KIMBALL.

JOS. W. STOVER.

WARD FOUR.

RUFUS MOULTON.

NATHAN MOSMAN.

WARD SIX.

JOHN WARD.

DWIGHT CHESTER.

WARD SEVEN.

JOHN Q. HENRY.

WM. P. ELLISON

## CITY GOVERNMENT.

**Clerk of Common Council.**

HOSEA HYDE.

**City Treasurer and Collector of Taxes**

EDWARD J. COLLINS.

**City Clerk and Clerk of Board of Aldermen.**

EDWIN O. CHILDS.

**City Auditor and Clerk of Committees.**

BENJAMIN F. OTIS.

**City Solicitor.**

PETER THACHER.

**City Engineer.**

ALBERT F. NOYES.

**Superintendent of Streets.**

A. R. CARTER.

## ASSESSORS' DEPARTMENT.

**Assessors.**

ISAAC HAGAR, *Chairman*, . . . Term expires January, 1880.  
 HOWARD B. COFFIN, *Secretary*, Term expires January, 1881  
 SAMUEL M. JACKSON, . . . Term expires January, 1879.

## SCHOOL COMMITTEE.

WILLIAM B. FOWLE, *Mayor, Chairman, ex-officio*.  
 GEORGE E. ALLEN, *President Common Council, ex-officio*.  
 REV. BRADFORD K. PEIRCE, D.D., *Chairman*.  
 ISAAC HAGAR, *Secretary*.  
 EPHRAIM HUNT, LL.D., *Superintendent of Schools*.

## ELECTIVE MEMBERS.

## PRESENT TERM OF OFFICE.

Ward 1.—BRADFORD K. PEIRCE, . . . Expires January, 1880.  
           HENRY C. HARDON, . . . Expires January, 1880.  
     “ 2.—HENRY O. MARTIN, . . . Expires January, 1880.  
           HORATIO S. NOYES, . . . Expires January, 1880.

## ELECTIVE MEMBERS.

## PRESENT TERM OF OFFICE.

Ward 3.—	JULIUS L. CLARKE, . . .	Expires January, 1879.
	EDWARD D. HINCKLEY, . . .	Expires January, 1879.
“ 4.—	JAMES E. LATIMER, . . .	Expires January, 1879.
	ISAAC HAGAR, . . . . .	Expires January, 1879.
“ 5.—	JOHN A. GOULD, . . . . .	Expires January, 1881.
	CHARLES E. ABBOTT, . . .	Expires January, 1881.
“ 6.—	JAMES S. NEWELL, . . . .	Expires January, 1881.
	AMOS E. LAWRENCE, . . .	Expires January, 1881.
“ 7.—	GEORGE W. SHINN, . . . .	Expires January, 1881.
	LINCOLN R. STONE, . . . .	Expires January, 1879.

## POOR DEPARTMENT.

## Board of Overseers.

THE MAYOR, *ex-officio*, *Chairman*.

Ward 1.—	CHARLES F. RAND.	Ward 4.—	ISAAC W. BIRD.
“ 2.—	AUSTIN T. SYLVESTER.	“ 5.—	HOSEA C. HOYT.
“ 3.—	OSCAR F. LUCAS.	“ 6.—	GEORGE WARREN.
	Ward 7.—	JOHN WARNER.	

JOHN WARNER, *Clerk of Board*.NATHANIEL D. MOODY, *Warden of Almshouse*.

## FIRE DEPARTMENT.

GEORGE H. ELLIS, *Chief Engineer*.HENRY L. BIXBY, *Assistant Engineer*.

## TRUSTEES OF PUBLIC LIBRARY.

## From the Board of Aldermen.

WM. I. GOODRICH.

## From the Common Council.

GEO. D. ELDRIDGE.

## At Large.

GEORGE H. JONES.

REV. B. K. PEIRCE, D.D.

JOHN S. FARLOW.

HON. JAS. F. C. HYDE.

HON. JULIUS L. CLARK.

## POLICE DEPARTMENT.

RIVILO L. HINDS, *City Marshal*.CHARLES O. DAVIS, *Sergeant of Police*.

## Police Officers.

JAMES D. HENTHORN.

JOHN RYAN.

GEORGE W. RIGBY.

CHARLES P. HEUSTIS.

WILLIAM C. EMERSON.

ROBERT S. HARRISON.

NOAH F. BOSWORTH.

CHARLES E. DAVIS.

GEORGE E. F. BAKER.

GEORGE H. MARSH.

CHARLES F. RICHARDSON. CHARLES S. BOOTHBY.

EDWIN G. HURD.

## WARD OFFICERS.

## WARD ONE.

*Warden*, JOHN M. FISK; *Clerk*, WILLIAM C. EMERSON; *Inspectors*,  
DEXTER WHIPPLE, JOHN E. BUTLER, SAMUEL W. KENDALL.

## WARD TWO.

*Warden*, WINFIELD S. SLOCUM; *Clerk*, ROBERT P. GOULD; *Inspectors*,  
GEORGE E. BRIDGES, WILLIAM H. LUCAS, HENRY F. ROSS.

## WARD THREE.

*Warden*, STEPHEN THACHER; *Clerk*, WILLIAM E. BARKER; *Inspectors*,  
OSCAR F. LUCAS, IRA D. VAN DUZEE, JOHN W. CARTER.

## WARD FOUR.

*Warden*, BENJAMIN B. CLARK; *Clerk*, H. H. MATHER; *Inspectors*,  
HENRY G. HILDRETH, JAMES H. DOLLIVER, CHARLES A. MOULTON.

## WARD FIVE.

*Warden*, WILLIAM S. CARGILL; *Clerk*, CHARLES H. NOYES; *Inspectors*,  
A. F. COTTRELL, GEORGE E. WALES, JOHN T. THOMASON.

## WARD SIX.

*Warden*, LEWIS E. COFFIN; *Clerk*, EDWARD H. MASON; *Inspectors*,  
FRANK EDMANDS, EDWARD A. ELLIS, BENJAMIN F. TYLER.

## WARD SEVEN.

*Warden*, ISAAC N. PEABODY; *Clerk*, JOHN A. EVANS; *Inspectors*,  
LYSANDER A. ELLIS, FREDERICK JACKSON, HENRY B. WELLS.

OFFICERS  
OF THE  
NEWTON CITY GOVERNMENT,  
1879.

---

**Mayor.**

WILLIAM B. FOWLE.

BOARD OF ALDERMEN.

JAMES F. EDMANDS, *President*.

WARD ONE.

FRANCIS G. BARNES.

WARD THREE.

EDWARD R. SECCOMB.

WARD FIVE.

GEORGE D. ELDRIDGE.

WARD TWO.

WILLIAM W. KEITH.

WARD FOUR.

CHARLES C. BURR.

WARD SIX.

JAMES F. EDMANDS.

WARD SEVEN.

GEORGE S. BULLENS.

COMMON COUNCIL.

JOHN Q. HENRY, *President*.

WARD ONE.

C. BOWDITCH COFFIN.

EDWARD SAWYER.

WARD THREE.

DAVID W. CHILD.

WILLIAM DIX.

WARD FIVE.

GEORGE E. WALES.

ALLISON O. SWETT.

WARD TWO.

J. WESLEY KIMBALL.

JOSEPH W. STOVER.

WARD FOUR.

NATHAN MOSMAN.

BENJAMIN BOURNE.

WARD SIX.

CHARLES C. BARTON.

EDWARD B. BOWEN.

WARD SEVEN.

JOHN Q. HENRY.

WILLIAM P. ELLISON.

**Clerk of Common Council.**

HOSEA HYDE.

**City Treasurer and Collector of Taxes.**

EDWARD J. COLLINS.

**City Clerk and Clerk of Board of Aldermen.**

EDWIN O. CHILDS.

**City Auditor and Clerk of Committees.**

BENJAMIN F. OTIS.

**City Solicitor.**

PETER THACHER.

**City Engineer.**

ALBERT F. NOYES.

**Superintendent of Streets.**  

---

**Water Registrar.**

MOSES CLARK, JR.

**Superintendent of Water Works.**

H. N. HYDE, JR.

**City Messenger.**

JOSEPH D. WELLINGTON.

**ASSESSORS' DEPARTMENT.****Assessors.**ISAAC HAGAR, *Chairman*, . . . Term expires January, 1880.HOWARD B. COFFIN, *Secretary*, . Term expires January, 1881.

SAMUEL M. JACKSON, . . . Term expires January, 1882.

**Assistant Assessors.—Elected Annually.**

Ward 1.—ORRIN WHIPPLE. Ward 4.—I. R. WORCESTER.

" 2.—JOSEPH WALKER. " 5.—S. N. WOODWARD.

" 3.—OSCAR F. LUCAS. " 6.—GEORGE WARREN.

Ward 7.—JOHN WARNER.

## SCHOOL COMMITTEE.

WILLIAM B. FOWLE, *Mayor, Chairman, ex-officio.*

JOHN Q. HENRY, *President Common Council, ex-officio.*

REV. AMOS E. LAWRENCE, *Chairman.*

ISAAC HAGAR, *Secretary.*

EPHRAIM HUNT, LL.D., *Superintendent of Schools.*

## ELECTIVE MEMBERS.

## PRESENT TERM OF OFFICE.

Ward 1.—	THOMAS S. SAMSON, <sup>1</sup> . . .	Expires January, 1880.
	HENRY E. COBB, <sup>1</sup> . . .	Expires January, 1880.
“ 2.—	HENRY O. MARTIN, . . .	Expires January, 1880.
	HORATIO S. NOYES, . . .	Expires January, 1880.
“ 3.—	JULIUS L. CLARKE, . . .	Expires January, 1882.
	ELIJAH W. WOOD, . . .	Expires January, 1882.
“ 4.—	WILLIAM S. SMITH, . . .	Expires January, 1882.
	ISAAC HAGAR, . . .	Expires January, 1882.
“ 5.—	JOHN A. GOULD, . . .	Expires January, 1881.
	CHARLES E. ABBOTT, . . .	Expires January, 1881.
“ 6.—	JAMES S. NEWELL, . . .	Expires January, 1881.
	AMOS E. LAWRENCE, . . .	Expires January, 1881.
“ 7.—	GEORGE W. SHINN, . . .	Expires January, 1881.
	LINCOLN R. STONE, . . .	Expires January, 1882.

<sup>1</sup> Elected in joint convention of City Council and School Committee.

## District Committees.

## NEWTON-CENTRE DISTRICT.

JAMES S. NEWELL, Newton Centre.

JOHN A. GOULD, Newton Upper Falls.

AMOS E. LAWRENCE, Newton Centre.

CHARLES E. ABBOTT, Newton Highlands.

GEORGE W. SHINN, Newton.

## UPPER-FALLS DISTRICT.

JOHN A. GOULD, Newton Upper Falls.

JAMES S. NEWELL, Newton Centre.

CHARLES E. ABBOTT, Newton Highlands.

AMOS E. LAWRENCE, Newton Centre.

ISAAC HAGAR, Newton Lower Falls.

## LOWER-FALLS DISTRICT.

WILLIAM S. SMITH, Auburndale.

ELIJAH W. WOOD, West Newton.

ISAAC HAGAR, Newton Lower Falls.

## WEST-NEWTON DISTRICT.

JULIUS L. CLARKE, West Newton.

ELIJAH W. WOOD, West Newton.

HORATIO S. NOYES, Newtonville.

WILLIAM S. SMITH, Auburndale.

HENRY O. MARTIN, Newtonville.



## NEWTONVILLE DISTRICT.

HORATIO S. NOYES, Newtonville.

LINCOLN R. STONE, Newton.

HENRY O. MARTIN, Newtonville.

THOMAS S. SAMSON, Newton.

HENRY E. COBB, Newton.

## NEWTON DISTRICT.

LINCOLN R. STONE, Newton.

GEORGE W. SHINN, Newton.

HENRY E. COBB, Newton.

JOHN Q. HENRY, Newton.

THOMAS S. SAMSON, Newton.

**Standing Committees of the Board.**

*High School.* — Amos E. Lawrence, Thomas S. Samson, Horatio S. Noyes, Julius L. Clarke, William S. Smith, John A. Gould, George W. Shinn, Mayor, *ex-officio*.

*Rules and Regulations.* — George W. Shinn, Henry E. Cobb, Charles E. Abbott.

*Accounts and Printing.* — Isaac Hagar, Elijah W. Wood, Julius L. Clarke.

*School-houses.* — Isaac Hagar, John A. Gould, Lincoln R. Stone.

*Salaries.* — James S. Newell, John Q. Henry, Henry O. Martin.

*Text-Books.* — Amos E. Lawrence, William S. Smith, Julius L. Clarke.

*Music.* — Amos E. Lawrence, Lincoln R. Stone, Elijah W. Wood.

*Drawing and Writing.* — Horatio S. Noyes, John Q. Henry, Thomas S. Samson.

*Industrial Drawing.* — James S. Newell, Charles E. Abbott, Henry O. Martin.

*Evening Schools.* — Geo. W. Shinn, Lincoln R. Stone, Henry E. Cobb.

## POOR DEPARTMENT.

**Board of Overseers.**THE MAYOR, *ex-officio*, *Chairman*.

Ward 1. — CHARLES F. RAND. Ward 4. — ISAAC W. BIRD.

" 2. — AUSTIN T. SYLVESTER. " 5. — HOSEA C. HOYT.

" 3. — OSCAR F. LUCAS. " 6. — GEORGE WARREN.

Ward 7. — JOHN WARNER.

JOHN WARNER, *Clerk of Board*.JOHN WARNER, *City Almoner*.NATHANIEL D. MOODY, *Warden of Almshouse*.

## FIRE DEPARTMENT.

HENRY L. BIXBY, *Chief Engineer*.WILLIAM BEMIS, *Assistant Engineer*.

## TRUSTEES OF PUBLIC LIBRARY.

## From the Board of Aldermen.

GEORGE D. ELDRIDGE.

## From the Common Council.

NATHAN MOSMAN.

## At Large.

GEORGE H. JONES.            REV. B. K. PEIRCE, D.D.  
 JOHN S. FARLOW.        HON. JAMES F. C. HYDE.  
                              HON. JULIUS. L CLARKE.

GEORGE H. JONES, *President*.  
 REV. B. K. PEIRCE, D.D., *Superintendent*.  
 HANNAH P. JAMES, *Librarian*.

## POLICE DEPARTMENT.

RIVILO L. HINDS, *City Marshal*.  
 CHARLES O. DAVIS, *Sergeant of Police*.

## Police Officers.

JAMES D. HENTHORN.    JOHN RYAN.  
 GEORGE W. RIGBY.      CHARLES P. HEUSTIS.  
 WILLIAM C. EMERSON.   ROBERT S. HARRISON.  
 NOAH F. BOSWORTH.    CHARLES E. DAVIS.  
 GEORGE E. F. BAKER.    GEORGE H. MARSH.  
 CHARLES F. RICHARDSON. CHARLES S. BOOTHBY.  
                              EDWIN G. HURD.

## WARD OFFICERS.

## WARD ONE.

*Warden*, JOHN M. FISK; *Clerk*, CHARLES A. DREW; *Inspectors*,  
 JOHN E. BUTLER, SAMUEL W. KENDALL, GEORGE B. ULLMAN.

## WARD TWO.

*Warden*, GEORGE E. BRIDGES; *Clerk*, R. P. GOULD; *Inspectors*,  
 HENRY P. DEARBORN, LAWRENCE H. CRANITCH, JAMES D. BILLINGS.

## WARD THREE.

*Warden*, STEPHEN THACHER; *Clerk*, WILLIAM E. BARKER; *Inspectors*, FRANK E. HUNTER, THOMAS B. FITZ, OSCAR F. LUCAS.

## WARD FOUR.

*Warden*, JAMES H. DOLLIVER; *Clerk*, HENRY H. MATHER; *Inspectors*, CHAS. A. MOULTON, EUGENE B. BAKER, HENRY G. HILDRETH.

## WARD FIVE.

*Warden*, WILLIAM S. GARGILL; *Clerk*, CHAS. H. NOYES; *Inspectors*, JOHN T. THOMASON, HARLEY A. SMITH, ARTHUR T. COTTRELL.

## WARD SIX.

*Warden*, LEWIS E. COFFIN; *Clerk*, EDWARD H. MASON; *Inspectors*, FRANK EDMANDS, EDWARD A. ELLIS, SAMUEL M. JACKSON.

## WARD SEVEN.

*Warden*, LYSANDER A. ELLIS; *Clerk*, HENRY B. WELLS; *Inspectors*, FREDERICK JACKSON, EDWIN M. GAY, J. EDWIN WARNER.

## JOINT STANDING COMMITTEES OF THE CITY COUNCIL.

**Committee on Finance and Salaries.**

The MAYOR, *ex-officio*.

The President of the Common Council, *ex-officio*.

Alderman William W. Keith.	Alderman George S. Bullens.
Councilman William P. Ellison.	Councilman Charles C. Barton.
Councilman Joseph W. Stover.	

**Committee on Accounts.**

Alderman George S. Bullens.	
Councilman C. Bowditch Coffin.	Councilman William P. Ellison.

**Committee on Public Property and Burial-Grounds.**

Alderman Edward R. Seecomb.	
Councilman David W. Child.	Councilman Benjamin Bourne.

**Committee on State Aid, Soldiers' Relief, and Military Affairs.**

Alderman Charles C. Burr.	
Councilman J. Wesley Kimball.	Councilman Allison O. Swett.

**Committee on Fuel and Street Lights.**

Alderman William W. Keith.

Councilman Edward B. Bowen.

Councilman William Dix.

**Committee on Fire Department.**

Alderman Francis G. Barnes.

Alderman James F. Edmands.

Councilman J. Wesley Kimball.

Councilman William P. Ellison.

Councilman Charles C. Barton.

**Committee on Highways, Sidewalks, Drains, Sewers, Culverts, and Bridges.**

Alderman James F. Edmands.

Alderman F. G. Barnes.

Councilman Nathan Mosman.

Councilman William Dix.

Councilman E. B. Bowen.

**Committee on Printing.**

Alderman Charles C. Burr.

Councilman Joseph W. Stover.

Councilman Benjamin Bourne.

**Committee on Ordinances.**

Alderman Charles C. Burr.

Alderman James F. Edmands.

Councilman Charles C. Barton.

Councilman David W. Child.

Councilman C. Bowditch Coffin.

**Committee on Claims.**

Alderman F. G. Barnes.

Alderman George D. Eldridge.

President John Q. Henry.

Councilman Edward B. Bowen.

Councilman George E. Wales.

**Committee on Water.**

Alderman George D. Eldridge.

Alderman Edward R. Seccomb.

Councilman J. Wesley Kimball.

Councilman Nathan Mosman.

Councilman Edward Sawyer.

**Committee on Almshouse and Poor.**

Alderman Charles C. Burr.

Councilman Edward Sawyer.

Councilman George E. Wales.

**Committee on Assessors' Department.**

Alderman George S. Bullens.

Councilman C. Bowditch Coffin.

Councilman A. O. Swett.

## STANDING COMMITTEES OF THE BOARD OF ALDERMEN.

**Committee on Police.**

The MAYOR.

Alderman William W. Keith.

Alderman Edward R. Seccomb.

**Committee on Elections and Returns.**

Alderman George S. Bullens.

Alderman Charles C. Burr.

**Committee on Enrolled Ordinances and Resolutions.**

Alderman James F. Edmands.

Alderman Charles C. Burr.

**Committee on Highways, Sidewalks, Drains, Sewers, Culverts, and Bridges.**

Alderman James F. Edmands.

Alderman F. G. Barnes.

Alderman George D. Eldridge.

**Committee on Licenses, Weights, and Measures.**

Alderman George D. Eldridge.

Alderman F. G. Barnes.

**Committee on Health.**

Alderman Edward R. Seccomb.

Alderman Charles C. Burr.

## STANDING COMMITTEES OF THE COMMON COUNCIL.

**Committee on Enrolled Ordinances and Resolutions.**

Councilman D. W. Child.

Councilman William Dix.

Councilman E. B. Bowen.

**Committee on Judiciary.**

Councilman Charles C. Barton.

Councilman Edward Sawyer.

Councilman William P. Ellison.

**Committee on Appropriations.**

Councilman Nathan Mosman.

Councilman A. O. Swett.

Councilman J. Wesley Kimball.

**Committee on Highways.**

Councilman George E. Wales.

Councilman C. Bowditch Coffin.

Councilman Benjamin Bourne.

# AUDITOR'S REPORT.

---

CITY OF NEWTON.

---

AUDITOR'S DEPARTMENT,  
NEWTON, Feb. 1, 1879.

TO THE HONORABLE CITY COUNCIL:—

*Gentlemen,*—The third Section of Ordinance No. 4 requires the Auditor to lay before the City Council, annually, an exhibit of the financial transactions and results of the preceding year: first, a statement of the receipts and expenditures of the year, with details under appropriate heads, showing the names of the persons to whom paid, and the purposes for which such expenditures were incurred; second, a schedule of all property belonging to the City, and of all leases thereof; third, an exhibit of loans or debts bearing interest due from the City, with rates of such interest, and dates when payable; the whole to conform as near as practicable to the accounts of the City Treasurer.

In obedience to this requirement I have the honor to present the annexed Report, exhibiting the transactions of the financial department of the City Government for the year ending December 31, 1878. Detailed statements of Liabilities and Assets, Receipts and Expenditures, Sinking Funds, City Property, etc., with other information of public interest, will be found under its appropriate classifications.

Respectfully submitted,

BENJAMIN F. OTIS, *Auditor.*

# CITY TREASURER'S ACCOUNT.

---

THE CITY OF NEWTON IN ACCOUNT WITH EDWARD J. COLLINS,  
*Treasurer and Collector.*

## DR.

To Cash Paid as per following Accounts : —

Almshouse Expenses and Repairs,	\$2,944 67
Armory rent and Expenses,	1,172 42
Books, Stationery, and Printing,	2,057 88
Burial-Grounds,	118 87
City Engineer's Department,	2,771 85
City Hall Fuel, Light, and Contingent Expenses,	2,050 23
Commonwealth Massachusetts State Tax, 1878,	16,080 00
Commonwealth Massachusetts Non-Resident Bank Tax,	1,318 56
Commissioners of Sewerage,	2,000 00
Concrete Sidewalks,	3,000 00
Conveyance of Pupils,	900 00
County of Middlesex Tax, 1878,	11,615 58
Curbing,	999 47
Drains and Culverts,	4,615 67
Evening Schools,	532 39
Fire Department,	19,886 12
Gravel Land,	1,266 13
Highways, General Repairs,	48,011 07
Highways, Widening and Improvements,	6,229 26
Interest on City Loans,	29,267 08
Interest on Water Scrip,	44,800 00
<i>Amount carried forward,</i>	<u>\$201,637 25</u>



<i>Amount brought forward,</i>	\$201,637 25	
Industrial and Mechanical Drawing,	110 50	
Kenrick Fund,	180 00	
Land Damages,	1,061 41	
Lighting Streets,	22,319 94	
Memorial Day,	300 00	
Miscellaneous Expenses,	4,301 26	
Newton Free Library,	7,270 02	
Overlay and Abatement Taxes, 1876,	18 70	
Overlay and Abatement Taxes, 1877,	1,121 20	
Overlay and Abatement Taxes, 1878,	3,203 51	
Police Department,	15,161 58	
Poor out of Almshouse,	8,444 92	
Public Property,	7,904 36	
Public Squares, Improvements,	500 00	
Salaries (including City Clerk, \$1,800),	9,518 25	
State Aid,	1,278 00	
Schools, General Appropriation,	72,339 05	
School Incidentals and Repairs,	8,693 94	
Sinking Fund on City Debt,	12,250 00	
Sinking Fund on Water debt,	12,750 00	
Temporary Loans,	200,000 00	
Use of Hydrants,	5,000 00	
Water Construction,	30,129 35	
Water Maintenance,	10,196 07	
	<hr/>	\$635,689 31
Balance in Treasury Dec. 31, 1878,		77,275 60
		<hr/>
		\$712,964 91

## CR.

Balance in the Treasury, December 31,	
1877,	\$77,013 72
Almshouse,	703 66
Armory,	500 00
Black Bass Pond,	25 00
	<hr/>
<i>Amount carried forward,</i>	\$78,242 38

<i>Amount brought forward,</i>	\$78,242 38
Books, Stationery, and Printing,	10 50
City Clerk Fees,	203 85
City Hall,	1,047 50
Criminal Fees, Police Court,	680 55
Corporation Tax, Commonwealth Mas-	
sachusetts,	14,759 76
Dog-Tax, County of Middlesex,	811 38
Funded Debt, Water Scrip, Sale of	
Water Scrip,	19,000 00
Highways,	2,844 05
Interest on Deposits Newton National	
Bank,	1,523 16
Interest on Deposits National Bank	
North America,	271 68
Interest on Taxes,	3,612 89
Kenrick Fund, Interest on Loans,	230 00
National Bank Tax from Common-	
wealth Massachusetts,	10,248 90
Non-Resident Pupils' Tuition,	523 50
Premium on Water Bonds,	665 00
Poor out of Almshouse,	2,251 62
Public Property,	406 45
State Aid from Commonwealth Mas-	
sachusetts,	1,300 00
Sidewalks and Curbing,	799 79
Taxes, 1875,	\$9 26
Taxes, 1876,	2,528 47
Taxes, 1877,	67,258 38
Taxes, 1878,	294,332 51
	<hr/>
	364,128 62
Temporary Loans,	180,000 00
Water Rates, 1877,	655 62
Water Rates, 1878,	20,129 11
Water Rates by Meter, 1878,	2,710 34
	<hr/>
<i>Amount carried forward,</i>	\$707,056 60

<i>Amount brought forward,</i>	\$707,056 60
Water Construction, Service-Pipe Assessment,	3,217 15
Water Construction, Meters sold,	2,366 90
Water Construction, Old Materials Sold,	27 43
Water Construction, Refund of Freight,	296 83
	<hr/> \$712,964 91

EDWARD J. COLLINS,  
*Treasurer and Collector.*

NEWTON, December 31, 1878.

CITY OF NEWTON,  
In Committee, February 13, 1879.

The Joint Standing Committee on Finance having attended to their duty, as required by Section 13 of Ordinance No. 4, beg leave to report that they have examined the books and accounts of the Treasurer and Collector, for the financial year of 1878, and find that they are carefully and correctly kept and all the payments are properly vouched.

That the total cash receipts of the year were,	\$635,951 19
Add cash on hand Dec. 31, 1877,	77,013 72
	<hr/> \$712,904 91
And the payments for the year were,	635,689 31
	<hr/> \$77,275 60

which balance of \$77,275.60 has been verified by examination of the Bank Balances to the credit of the city and cash in the office.

ERRATA.

The amount above,

*Should read*

\$712,904 91  
712,964 91

They further report that there remain due and uncollected, the following taxes and assessments:—

Taxes of 1871,	\$607 36	
“ 1872,	600 66	
“ 1873,	1,341 71	
“ 1874,	2,520 26	
“ 1875,	3,586 63	
“ 1876,	4,445 55	
“ 1877,	3,862 47	
“ 1878,	60,039 98	
Sidewalk and Curbing Assessments,	491 33	
Betterment Assessments,	50 00	
		<hr/> \$77,545 95

Respectfully submitted,

WM. B. FOWLE,  
J. Q. HENRY,  
W. W. KEITH,  
GEO. S. BULLENS,  
WM. P. ELLISON,  
CHARLES C. BARTON,  
JOS. W. STOVER,

} *Finance*  
} *Committee for*  
} *1879.*

**LIABILITIES OF THE CITY OF NEWTON TO DEC. 31, 1878,  
INCLUSIVE.**

Water Loan,	\$790,000 00	
Accrued Interest on same,	22,750 00	
		<hr/> \$812,750 00
Town and City Notes,	\$353,000 00	
Accrued Interest on same,	4,723 72	
		<hr/> 357,723 72
Municipal Bonds,	\$34,000 00	
Accrued Interest on same,	850 00	
		<hr/> 34,850 00
Temporary Loan,		80,000 00
		<hr/> \$1,285,323 72
<i>Amount carried forward,</i>		

<i>Amount brought forward,</i>		\$1,285,323 72
Uninvested portion of Principal of		
Kenrick Fund,	\$1,000 00	
Interest on the same,	50 00	
	<hr/>	1,050 00
Mayor's warrants unpaid,		32,733 58
		<hr/>
		\$1,319,107 30

#### DETAILED STATEMENT OF ASSETS.

Balance of Taxes, 1871,	\$607 36	
“ “ 1872,	600 66	
“ “ 1873,	1,341 71	
“ “ 1874,	2,520 26	
“ “ 1875,	3,586 63	
“ “ 1876,	4,445 55	
“ “ 1877,	3,862 47	
“ “ 1878,	60,039 98	
	<hr/>	\$77,004 62
Due from the Commonwealth, viz.:		
Support of Poor in 1878 and pre-		
vious years,	500 00	
State Aid furnished in 1878 and		
previous years,	1,800 00	
Balance of Corporation Tax,	2,625 41	
Armory rent for 1878,	400 00	
Due from County Treasurer:		
Dog Tax for 1878,	825 00	
Due from Miscellaneous sources, viz.:		
Support of Poor from Cities and		
Towns,	\$1,000 00	
Sidewalks and Curbing,	491 33	
Fees Police Court,	300 00	
Rent of House, Ward 7, connected		
with Engine-House,	450 00	
	<hr/>	
<i>Amounts carried forward,</i>	\$85,396 36	\$1,319,107 30

*Amounts brought forward,*      \$85,396 36    \$1,319,107 30  
 Cash on hand :

City Account,	\$75,590 37	
Water Construction,	1,685 23	
	<u>          </u>	\$77,275 60

**Sinking Funds.**

Water Loan Sinking Fund Water		
Bonds,	\$19,000 00	
Cash on hand,	16,706 55	
	<u>          </u>	35,706 55
City Debt Sinking Fund Water		
Bonds,	\$21,000 00	
Cash on hand,	16,927 83	
	<u>          </u>	37,927 83
		<u>          </u>
		236,306 34
		<u>          </u>
		\$1,082,800 96

**RECAPITULATION.**

**Water Debt.**

Water Loan,	\$790,000 00	
Accrued Interest on same,	22,750 00	
Mayor's Warrants unpaid for Construction,	832 09	
	<u>          </u>	\$813,582 09
Cash on hand for Construction,	\$1,685 23	
Sinking Fund,	35,706 55	
	<u>          </u>	37,391 78
		<u>          </u>
Net Water Liability,		\$776,190 31

**City Debt Exclusive of Water Debt.**

Town and City Notes,	\$353,000 00	
Accrued Interest on same,	4,723 72	
	<u>          </u>	
<i>Amount carried forward,</i>		\$357,723 72

<i>Amount brought forward,</i>		\$357,723 72
Municipal Bonds,	\$34,000 00	
Accrued Interest on same,	850 00	
	<hr/>	34,850 00
Temporary Loans,		80,000 00
Uninvested portion of Principal of		
Kenrick Fund,	\$1,000 00	
Interest on the same,	50 00	
	<hr/>	1,050 00
Mayor's Warrants unpaid,		31,901 49
		<hr/>
		\$505,525 21
Cash on hand,	\$75,590 37	
Sinking Fund,	37,927 83	
Balance Taxes uncollected,	77,004 62	
Other Assets uncollected,	8,391 74	
	<hr/>	198,914 56
		<hr/>
Net City Liability,		\$306,610 65

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### RECEIPTS.

The receipts for the year ending Dec. 31, 1878, are shown in the aggregates, as credited in the following accounts: —

No. of account.		
1.	Almshouse,	\$703 66
2.	Armory,	500 00
3.	Black Bass Pond,	25 00
4.	Books, Stationery, and Printing,	10 50
5.	City Clerk's Fees,	203 85
6.	City Hall,	1,047 50
7.	Criminal Fees,	680 55
8.	Corporation Tax,	14,759 76
9.	Dog Tax,	811 33
10.	Highways,	2,844 05
11.	Interest,	1,523 16
		<hr/>
	<i>Amount carried forward,</i>	\$23,109 36

<i>Amount brought forward,</i>	\$23,109 36
12. Interest on Taxes,	3,612 89
13. Interest Water Account,	271 68
14. Kenrick Fund,	1,230 00
15. National Bank Tax,	10,248 90
16. Non-Resident Pupils,	523 50
17. Premium on Water Bonds,	665 00
18. Poor out of Almshouse,	2,251 62
19. Public Property,	406 45
20. State Aid,	1,300 00
21. Sidewalks and Curbing,	799 79
22. Taxes, 1875,	9 26
23. " 1876,	2,528 47
24. " 1877,	67,258 38
25. " 1878,	294,332 51
26. Temporary Loans,	180,000 00
27. Water Bonds,	19,000 00
28. Water Construction,	5,908 31
29. Water Rates,	23,495 07
Total Receipts, _____	<u>\$636,951 19</u>

## EXPENSES.

The claims for the year ending December 31, as approved and drawn for in the Auditor's office, are shown in the aggregates as charged to the following accounts:—

No.		
1.	Almshouse Expenses and Repairs,	\$3,330 69
2.	Armory Rent and Expenses,	1,323 82
3.	Books, Stationery, and Printing,	2,055 89
4.	Burial Grounds,	118 87
5.	City Clerk's Salary,	1,800 00
6.	City Engineer's Department,	2,996 59
7.	City Hall, fuel, lights, and contingent expenses,	2,333 19
8.	Commonwealth of Massachusetts, non-resident Bank Tax,	1,318 56
	<i>Amount carried forward,</i>	<u>\$15,277 61</u>



<i>Amount brought forward,</i>	\$15,277 61
9. Commonwealth of Massachusetts, State Tax, 1878,	16,080 00
10. County of Middlesex, Tax, 1878,	11,615 58
11. Conveyance of Pupils,	900 00
12. Curbing,	999 47
13. Concrete Sidewalks,	3,000 00
14. Commissioners for Sewerage,	2,000 00
15. Drains and Culverts,	7,266 92
16. Evening Schools,	600 00
17. Fire Department,	20,088 19
18. Gravel Land,	1,365 32
19. Highways, General Repairs,	47,706 86
20. Highways, Widening and Improvements,	8,000 00
21. Industrial and Mechanical Drawing.	180 50
22. Interest on City Loans, Temporary and Per- manent,	29,267 08
23. Interest on Water Bonds,	44,800 00
24. Kenrick Fund Income,	180 00
25. Land Damages,	1,311 41
26. Lighting Streets,	22,374 06
27. Memorial Day,	300 00
28. Miscellaneous Expenses,	4,525 05
29. Newton Free Library,	7,367 07
30. Police Department,	14,954 34
31. Poor out of Almshouse,	8,284 10
32. Public Property,	9,903 27
33. Public Squares,	500 00
34. Salaries,	10,069 00
35. State Aid,	1,323 00
36. Sinking Fund, City Debt,	12,250 00
37. Sinking Fund, Water Bonds,	12,750 00
38. Schools, General Appropriation,	72,409 92
39. School Incidentals and Repairs,	9,116 21
40. Temporary Loans,	200,000 00
41. Use of Hydrants,	5,000 00
42. Water Construction,	23,628 29
43. Water Maintenance,	9,977 69
	<hr/>
	\$635,370 49

Table showing Appropriations, Transfers, Mayor's Warrants, Treasurer's Payments, Differences, Excess and Deficiency Account.

OBJECT OF APPROPRIATION.	Appropriation for 1878.	Transfers.	Total Appropriations.	Mayor's Warrants.	Treasurer's Payments.	Differences.	Excess & Deficiency Ac.	
							Overdrawn.	Unexpended.
1. Almshouse Expenses and Repairs . . . . .	\$3,500 00		\$3,500 00	\$3,330 69	\$2,944 67	\$386 02	\$173 82	\$169 31
2. Armory Rent and Expenses . . . . .	1,150 00		1,150 00	1,323 82	1,172 42	151 40		944 11
3. Books, Stationery, and Printing . . . . .	3,000 00		3,000 00	2,055 89	2,057 88	-1 99		81 13
4. Burial-Grounds . . . . .	200 00		200 00	118 87	118 87			53
5. Conveyance of Pupils . . . . .	900 00		900 00	900 00	900 00			
6. Curbing . . . . .	1,000 00		1,000 00	999 47	999 47			
7. Concrete Sidewalks . . . . .	3,000 00		3,000 00	3,000 00	3,000 00			
8. City Clerk's Salary . . . . .	1,800 00		1,800 00	1,800 00	1,800 00			
9. City Hall: Fuel, Light, and Contingent Expenses . . . . .	2,500 00		2,500 00	2,333 19	2,050 23	282 96		166 81
10. City Engineer's Department . . . . .	3,000 00		3,000 00	2,996 59	2,771 85	224 74		3 41
11. Commissioners for Sewerage . . . . .	2,000 00		2,000 00	2,000 00	2,000 00			
12. Drains and Culverts . . . . .	3,000 00	1,622 16	4,622 16	7,266 92	4,615 67	2,651 25	2,644 76	
13. Evening Schools . . . . .	600 00		600 00	600 00	532 39	67 61		
14. Fire Department . . . . .	23,000 00		23,000 00	20,088 19	19,886 12	202 07		2,911 81
15. General Appropriation for Schools . . . . .	71,811 33	598 59	72,409 92	72,409 92	72,339 05	70 87		
16. Dog Tax . . . . .								
17. Gravel Land . . . . .	3,000 00	1,622 16	1,377 84	1,365 32	1,266 13	99 19		12 52
18. Highways, General Repairs . . . . .	45,000 00		45,000 00	47,706 86	48,011 07	-304 21	2,706 86	
19. Special Appropriation . . . . .	8,000 00		8,000 00	8,000 00	6,229 26	1,770 74		104 70
20. Highways, Widening and Improvements . . . . .	500 00	214 80	285 20	180 50	110 50	70 00		
21. Industrial and Mechanical Drawing . . . . .	32,000 00	1,250 00	30,750 00	29,267 08	29,267 08			1,482 92
22. Interest on Water Bonds . . . . .	44,800 00		44,800 00	44,800 00	44,800 00			
23. Improvements on Public Squares . . . . .	500 00		500 00	500 00	500 00			
24. Land Damages . . . . .	2,000 00		2,000 00	1,311 41	1,061 41	250 00		688 59
25. Lighting Streets . . . . .	21,000 00	1,200 50	22,250 00	22,374 06	22,319 94	54 12	124 06	
26. Memorial Day . . . . .	300 00		300 00	300 00	300 00			
27. Miscellaneous Expenses . . . . .	5,000 00		5,000 00	4,525 05	4,301 26	223 79		474 95









27. Newton Free Library . . . . .	7,500 00		7,500 00	7,367 07	7,270 02	97 05	132 93
28. Police Department . . . . .	15,500 00		15,500 00	14,954 34	15,161 58	-207 24	545 66
29. Poor out of Almshouse . . . . .	10,000 00		10,000 00	8,284 10	8,444 92	-160 82	1,715 90
30. Public Property . . . . .	12,500 00		12,500 00	9,903 27	7,904 38	1,998 91	2,596 73
31. School Incidentals and Repairs . . . . .	9,500 00	383 79	9,116 21	9,116 21	8,693 94	422 27	
32. Sinking Fund on Water Bonds . . . . .	12,750 00		12,750 00	12,750 00	12,750 00		
33. Sinking Fund on City Debt . . . . .	12,250 00		12,250 00	12,250 00	12,250 00		
34. Salaries . . . . .	10,250 00		10,250 00	10 069 00	7,718 25	2,350 75	181 00
35. State Aid . . . . .	1,400 00		1,400 00	1,323 00	1,278 00	45 00	77 00
36. Use of Hydrants . . . . .	5,000 00		5,000 00	5,000 00	5,000 00		
37. Water Department . . . . .	10,000 00		10,000 00	9,977 69	10,196 07	-218 38	22 31
						\$11,418 74	\$12,312 32
						-892 64	5,649 50
						\$10,526 10	
						21,035 31	
			\$389,211 33	\$382,548 51	\$372,022 41	\$31,561 41	\$6,562 82
Add for Differences as per Auditor's Report							
for 1877 . . . . .							
Transferred into Treasury . . . . .							
			\$389,211 33	\$382,548 51	\$372,022 41	\$5,049 50	

## PERMANENT DEBT. — DESCRIPTIVE LIST.

	RATE.	DATE OF LOAN, ETC.	PAYABLE.	AMOUNT.	INTEREST, WHEN PAYABLE.
City Institution for Savings, Lowell,	6 per cent.	Oct. 2, 1867,	Oct. 2, 1884,	\$20,000 00	April and October,
" " " "	6 "	Oct. 2, 1867,	Oct. 2, 1885,	20,000 00	" "
" " " "	6 "	Oct. 2, 1867,	Oct. 2, 1886,	20,000 00	" "
" " " "	6 "	Oct. 2, 1867,	Oct. 2, 1887,	20,000 00	" "
Commonwealth of Massachusetts,	6 "	April 1, 1868,	April 1, 1886,	60,000 00	" "
" " " "	6½ "	April 21, 1871,	April 21, 1888,	46,000 00	" "
" " " "	6 "	April 22, 1870,	April 22, 1890,	20,000 00	" "
" " " "	6 "	April 22, 1870,	April 22, 1892,	30,000 00	" "
" " " "	6 "	March 9, 1875,	March 9, 1895,	47,000 00	March and Sept.
Boston Five Cents Savings Bank,	6 "	Aug. 25, 1864,	April 24, 1879,	30,000 00	March 16 and Sept. 16,
" " " "	6½ "	April 1, 1872,	April 1, 1883,	40,000 00	June 16 and Dec. 16,
Municipal Bonds, \$1,000 each,	5 "	July 1, 1875,	July 1, 1895,	34,000 00	January and July,
Water Bonds, \$1,000 each,	6 "	July 1, 1875,	July 1, 1905,	600,000 00	" "
" " " "	5 "	July 1, 1875,	July 1, 1905,	190,000 00	" "
				\$1,177,000 00	



## TAXES AND TAXABLE VALUATION.

The following will show the valuation of the property of the city on which taxes were assessed for the year 1878, with the amount of taxes and rate of taxation:—

Value of Real Estate,	\$18,604,105 00
Value of Personal Estate,	6,408,825 00
	<hr/>
	\$25,012,930 00
Taxable Value of Corporate Stocks,	1,150,000 00
Taxable Value of Bank Stocks,	850,000 00
	<hr/>
	\$27,012,930 00
 City Appropriations for current expenses,	 \$378,400 00
Deduct estimated receipts for 1878,	59,175 00
	<hr/>
City Tax,	\$319,225 00
State Tax,	16,080 00
County Tax,	11,615 58
Overlay,	6,021 85
	<hr/>
	\$352,942 43
Assessment on Corporate Stocks,	15,071 60
Assessment on Bank Stocks,	10,043 61
	<hr/>
Total assessments,	\$378,057 64
Rate of taxation, \$13.80 on \$1,000.	

## STATEMENT OF THE SINKING FUNDS.

SINKING FUND COMMISSIONERS IN ACCOUNT WITH CITY OF NEWTON.

## Water Loan Sinking Fund.

1878.

Jan. 1. Balance on hand, cash,	\$13,261 29
Newton Water Bonds,	9,000 00
	<hr/>
<i>Amount carried forward,</i>	\$22,261 29

<i>Amount brought forward,</i>	\$22,261 29
Jan. 1. By interest on deposits for the year 1878,	136 93
By interest on \$19,000 City of Newton Water Bonds for the year 1878,	950 00
Appropriation for 1878 by City of Newton,	12,750 00
	<hr/>
	\$36,098 22

*Dr.*

1878.		
Jan. 31.	To premium paid City of Newton on \$10,000 Water Bonds,	\$350 00
“ “	To one month's interest accrued on above bonds,	41 67
		<hr/>
		\$391 67
1879.		
Jan. 1.	Balance on hand, cash, \$16,706 55	
	City of Newton Water Bonds, 19,000 00	
		<hr/>
	Total,	\$35,706 55

**City Debt Sinking Fund.**

1878.		
Jan. 1.	Balance on hand, cash, \$12,948 12	
	Newton Water Bonds, 12,000 00	
		<hr/>
		\$24,948 12
	By interest on deposit for the year 1878,	304 71
	By interest on \$21,000 City of Newton Water Bonds for the year 1878,	825 00
	Appropriation for 1878 by City of Newton,	12,250 00
		<hr/>
		\$38,327 83

*Dr.*

1878.		
Sept. 9.	To premium paid City of Newton on \$9,000 Water Bond,	\$315 00
“ “	To two months, eight days' accrued interest on above Bonds,	85 00
		<hr/>
		\$400 00

1879.

Jan. 1.	Balance on hand, cash,	\$16,927 83	
	City of Newton Water Bonds,	21,000 00	
		<hr/>	
	Total,		\$37,927 83

E. J. COLLINS,  
*Treasurer.*

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**STATEMENT IN DETAIL OF RECEIPTS.**

**Almshouse.**

Received for support of Sally Pierce,	\$104 00	
“ Sale of Hay,	306 08	
“ “ Produce,	293 58	
	<hr/>	
Total, as per item No. 1 of receipts,		\$703 66

**Armory.**

Received from Commonwealth of Massachusetts for rent of Armory, as per item No. 2 of receipts,	\$500 00
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**Black Bass Pond.**

Received from Black Bass Club for rent, as per item No. 3 of receipts,	\$25 00
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**Books, Stationery, and Printing.**

Received of J. H. Potter for overcharge on advertising, as per item No. 4 of receipts,	\$10 50
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**City Clerk Fees.**

Received Recording Mortgages,	\$85 50	
“ Marriage Certificates,	49 50	
“ Recording Assignments,	42 50	
“ Auctioneers' Licenses,	18 00	
“ Old Junk “	6 00	
“ Recording Bill of Sales,	50	
“ M. S. Rice, Town Clerk,	1 85	
	<hr/>	
Total, as per item No. 5 of receipts,		\$203 85

**City Hall.**

Received for use of Hall,	\$547 50	
“ of Amos Stone, Treasurer County of Middlesex, for rent of Police Court-Room,	500 00	
	<hr/>	
Total, as per item No. 6 of receipts,		\$1,047 50

**Criminal Fees.**

Received of E. W. Cate, Clerk of Police Court, Officers' Fees, Fees for Witnesses, Fines and Costs, as per item No. 7 of receipts,		\$680 55
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**Dog Tax.**

Received from County Treasurer for Dog Tax, as per item No. 9 of receipts,		\$811 33
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**Highways.**

Received from Fire Department for keeping and care of horses,	\$2,654 58	
Received from Police Department for keeping and care of horse,	170 17	
Received for gravel, etc.,	19 30	
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Total, as per item No. 10 of receipts,		\$2,844 05

**Interest.**

Received from Newton National Bank, on daily balances, as per item No. 11 of receipts,		\$1,523 16
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**Interest on Taxes.**

Received from sundry persons, Interest on Taxes, as per item No. 12 of receipts,		\$3,612 89
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**Interest on Water Account.**

Received from National Bank of North America on daily balances, as per item No. 13 of receipts,		\$271 68
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**Kenrick Fund Income.**

Balance uninvested in City Treasury, \$1,000 00	
Income from investments, 230 00	
	<hr/>
Total, as per item No. 14 of receipts,	\$1,230 00

**EXPENDED.**

Distributed per order Board of Aldermen, as per item No. 24 of expenses,	\$180 00	
Balance income on hand,	50 00	
	<hr/>	\$230 00
Balance uninvested January 1, 1879,		<hr/> \$1,000 00

**Non-Resident Pupils.**

Received from sundry Non-Residents for Tuition, as per item No. 16 of receipts,	\$523 50
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**Premium on Water Bonds.**

Received from sale of \$19,000 Newton Water Bonds, 3½ per cent., as per item No. 17 of receipts,	\$665 00
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**Poor Out of Almshouse.**

Rec'd from Commonwealth of Massachusetts for partial support, etc., of sundry persons,	\$908 70
Rec'd from Commonwealth of Massachusetts, for burials,	75 00
Rec'd from City of Boston, partial support of sundry persons,	769 97
“ Town of Norwood, partial support of sundry persons,	116 25
“ City of Somerville, partial support of sundry persons,	85 35
	<hr/>
<i>Amount carried forward,</i>	\$1,955 27

<i>Amount brought forward,</i>	\$1,955 27	
Rec'd from Town of Melrose, partial support of sundry persons,	75 00	
“ Town of Concord, partial support of sundry persons,	41 52	
“ Town of Watertown, partial support of sundry persons,	33 64	
“ City of Salem, partial support of sundry persons,	30 85	
“ Town of Petersham, partial support of sundry persons,	28 26	
“ City of Lynn, partial support of sundry persons,	23 00	
“ Town of Needham, partial support of sundry persons,	16 17	
“ Town of Milford, partial support of sundry persons,	13 90	
“ Town of Lunenburg, partial support of sundry persons,	10 88	
“ City of Chelsea, partial support of sundry persons,	7 38	
“ City of Cambridge, partial support of sundry persons,	3 00	
“ Timothy Quirk, refunded,	12 75	
		<hr/>
Total, as per item No. 18 of receipts,		\$2,251 62

#### Public Property.

Received for rent of Prospect School-House Hall,	\$161 00	
Received for rent of Mason School-House Hall,	129 00	
Rec'd from D. C. Morgan, for rent of house, Washington street, Ward 7,	80 00	
		<hr/>
<i>Amount carried forward,</i>	\$370 00	

<i>Amount brought forward,</i>	\$370 00	
Rec'd from Traders & Mechanics Fire Insurance Co., of Lowell, return premiums,	26 25	
“ Sale of old hose, West Newton,	5 20	
“ Alden Speare, for rent of Old Engine-House, Ward 6,	5 00	
	<hr/>	
Total, as per item No. 19 of receipts,		\$406 45

**State Aid.**

Received from Commonwealth of Massachusetts, on account of sundry persons, as per item No. 20 of receipts,	\$1,300 00
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**Sidewalks and Curbing.**

Received from sundry persons for laying sidewalks and curbing, as per item No. 21 of receipts,	\$799 79
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**Taxes, 1871.**

Balance uncollected Dec. 31, 1877,	\$607 36
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**Taxes, 1872.**

Balance uncollected Dec, 31, 1877,	\$600 66
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**Taxes, 1873.**

Balance uncollected Dec. 31, 1877,	\$1,341 71
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**Taxes, 1874.**

Balance uncollected Dec. 31, 1877,	\$2,520 26
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**Taxes, 1875.**

Balance uncollected Dec. 31, 1877,	\$3,595 89	
Received from sundry persons since Dec. 31, 1877, as per item No. 22 of receipts,	9 26	
	<hr/>	
Balance uncollected,		\$3,586 63

**Taxes, 1876.**

Balance uncollected Dec. 31, 1877,		\$6,974 02
Received from sundry persons since Dec. 31, 1877,	\$2,509 77	
Abatements to Dec. 31, 1878,	18 70	
	<hr/>	
Total, as per item No. 23 of receipts,		2,528 47
		<hr/>
Balance uncollected,		\$4,445 55

**Taxes, 1877.**

Balance uncollected Dec. 31, 1877,	\$71,042 69	
Supplementary assessment,	78 16	
	<hr/>	\$71,120 85
Received from sundry persons since Dec. 31, 1877,	\$66,137 18	
Abatements to Dec. 31, 1878,	1,121 20	
	<hr/>	
Total, as per item No. 24 of receipts,		67,258 38
		<hr/>
Balance uncollected,		\$3,862 47

**Taxes, 1878.**

Amount assessed for State Tax,	\$16,080 00	
“ “ “ County Tax,	11,615 58	
City Tax and overlay,	325,306 92	
Tax on Non-Resident Bank shares,	1,369 99	
	<hr/>	\$354,372 49
Received from sundry persons to Dec. 31, 1878,	\$291,129 00	
Abatements to Dec. 31, 1878,	3,203 51	
	<hr/>	
Total, as per item No. 25 of receipts,		\$294,332 51
		<hr/>
Balance uncollected,		\$60,039 98



**Taxes, 1878.**

Rec'd from Commonwealth of Massachusetts Corporation, as per item No. 8 of receipts,	\$14,759 76
“ Commonwealth of Massachusetts National Banks, as per item No. 15 of receipts,	10,248 90
Expended. Commonwealth of Massachusetts, for Non-residents of Newton, National Bank shares, as per item No. 8 of expenses,	\$1,318 56

**Temporary Loans.**

Borrowed during the year by authority of the City Council (in anticipation of taxes), for the payment of current expenses.

April 8. Commonwealth of Massachusetts,	\$100,000 00
Dec. 31. Commonwealth of Massachusetts,	80,000 00
<hr/>	
Total, as per item No. 26 of receipts,	\$180,000 00
Expended, Nov. 9. Commonwealth of Massachusetts,	\$100,000 00
“ Nov. 16. Commonwealth of Massachusetts,	100,000 00
<hr/>	
Total, as per item No. 40 of expenses,	\$200,000 00

**Water Bonds.**

Received from sale of 19 Newton City Water Bonds, \$1,000 each, as per item No. 27 of receipts,	\$19,000 00
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## Water Rates.

Received from sundry persons for use of Water in 1877,	\$655 62
Use of Water in 1878,	20,129 11
“ “ “ 1878 by meter,	2,710 34
Total, as per item No. 29 of receipts,	<u>\$23,495 07</u>

## STATEMENT IN DETAIL OF EXPENSES, WITH APPROPRIATIONS, TRANSFERS, AND BALANCES.

## ALMSHOUSE EXPENSES AND REPAIRS.

Appropriation,		\$3,500 00
Levi Moody, services as Warden,	\$137 49	
Levi Moody, sundry cash payments,	60 92	
N. D. Moody, services as Warden,	374 94	
N. D. Moody, sundry cash payments,	338 54	
Sarah Dow, services at Almshouse,	60 00	
Mary Ann McPhee, services at Almshouse,	10 00	
Lizzie Moody, services at Almshouse,	38 52	
George Eastbrook, “ “ “	9 00	
W. B. Locke, “ “ “	5 00	
Highway Department, manure,	360 00	
O. F. Lucas, horse, etc.,	156 65	
J. W. Davis & Co., groceries,	272 57	
Luther H. Dana, “	108 34	
Reed, Hawkins, & Reed, groceries,	96 62	
H. W. Fanning & Son, “	66 39	
C. C. Cook, “	58 90	
H. Callender & Co., “	12 38	
Charles W. Randall, provisions,	144 66	
F. B. Reed, “	35 12	
F. Linnell, fish, etc.,	24 99	
B. Randall, “ “	17 15	
<i>Amounts carried forward,</i>	<u>\$2,398 18</u>	<u>\$3,500 00</u>

<i>Amounts brought forward,</i>	\$2,398 81	\$3,500 00
E. F. Hunting, fish, etc.,	9 08	
Albert Brackett, coal,	144 38	
J. F. C. Hyde, wood at auction,	54 75	
Francis Murdock & Co., dry goods, etc.,	67 18	
Boynton Bros., " " "	27 01	
Field & Co., " " "	23 71	
J. H. Bacon, " " "	5 41	
J. H. Nickerson, clothing, "	15 70	
J. T. Norris, boots and shoes,	30 55	
A. J. Gordon, " "	18 65	
J. E. Gammons, " "	8 25	
Collin Cady, material and labor,	56 88	
Milo Lucas, " "	38 61	
J. Pulcifer, " "	14 05	
H. W. Crowell, grain,	54 11	
Willard Hurd, carriage,	50 00	
F. A. Collins, use of pasture,	45 00	
Water Department, use of water, etc.,	38 50	
J. F. Brown, Treasurer, pew rent,	33 86	
Thomas Belger, blacksmithing,	24 68	
Andrew Peters, " "	11 16	
Dr. F. D. Lord, prof. services,	34 50	
Dr. F. E. Crockett, prof. services,	5 00	
A. Pillsbury, Jr., medicines,	26 73	
George H. Ingraham, medicines,	3 55	
George H. Ellis, ice,	15 00	
C. V. Knowles, glazing,	11 00	
Waters & Inman, cement,	7 50	
Field & Davis, supplies,	20 13	
A. Goodnow, "	16 91	
Sundry small bills,	30 67	

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Total, as per item No. 1 of expenses, \$3,330 69

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Balance unexpended, transferred into Treasury, \$169 31

**ARMORY RENT AND EXPENSES.**

Appropriation,		\$1,150 00
O. W. Turner, rent of Armory,	\$800 00	
B. S. Wetherbee, services as janitor,	250 00	
N. & W. Gas Light Co., gas,	117 60	
W. H. French & Co., material and labor,	84 00	
George H. Belcher, " " "	32 00	
Water Department, use of water, etc.,	21 80	
George W. Boyd, painting,	9 00	
Albert Brackett, coal,	5 42	
James Nickelson, wood,	4 00	
		<hr/>
Total, as per item No. 2 of expenses,		\$1,323 82
		<hr/>
Balance overdrawn, transferred into Treasury,		\$173 82

**BOOKS, STATIONERY, AND PRINTING.**

Appropriation,		\$3,000 00
Henry Washburn, Auditor's Report,		
etc.,	\$473 25	
Amidon & Washburn, printing, etc.,	330 75	
H. M. Stimson, printing and advertising,	268 94	
J. H. Potter, printing and advertising,	205 40	
Charles H. Stacy, stamped envelopes,		
envelopes and stamps,	202 93	
M. R. Warren, books and stationery,	160 60	
Rand, Avery, & Co., printing tax-lists,		
etc.,	100 00	
L. F. Lawrence & Co., printing, etc.,	70 50	
Transcript Publishing Co., printing		
and advertising,	49 75	
Ward & Gay, stationery, etc.,	45 90	
E. H. Trulan & Co., printing, etc.,	35 00	
		<hr/>
<i>Amounts carried forward,</i>	\$1,943 02	\$3,000 00

<i>Amounts brought forward,</i>	\$1,943 02	\$3,000 00
Hooper, Lewis, & Co., stationery, etc.,	28 90	
J. Q. Bradish & Co., pens,	22 50	
R. M. Pulsifer & Co., advertising,	15 25	
W. S. Varney, printing,	12 50	
Sampson, Davenport, & Co., Boston		
Directories,	10 00	
Knight, Adams, & Co., books, etc.,	8 90	
Newton Post Office, stamped envelopes, etc.,	7 82	
Frank Fanning, postal cards and printing,	6 00	
J. L. Fairbanks & Co., stationery,	1 00	
	<hr/>	
Total, as per item No. 3 of expenses,		\$2,055 89
		<hr/>
Balance unexpended, transferred into Treasury,		\$944 11

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#### BURIAL GROUNDS.

Appropriation,		\$200 00
Newton Cemetery, material and labor,	\$118 87	
	<hr/>	
Total, as per item No. 4 of expenses,		118 87
		<hr/>
Balance unexpended, transferred into Treasury,		\$81 13

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#### CITY CLERK'S SALARY.

Appropriation,		\$1,800 00
Edwin O. Childs,	\$1,800 00	
	<hr/>	
Total, as per item No. 5 of expenses,		\$1,800 00

## City Engineer's Department.

Appropriation,		\$3,000 00
Albert F. Noyes, services as City Engineer,	\$1,300 00	
George S. Lewis, services as Assistant Engineer,	600 00	
H. G. Fordham, services as Assistant Engineer,	307 00	
Eugene B. Baker, services as Assistant Engineer,	258 00	
James McDonald, services as Assistant Engineer,	65 12	
Incidental repairs, travelling expenses, etc., of Engineer and Assistants,	68 53	
C. H. Eaton, copying records,	120 00	
F. H. Barrett, " "	47 25	
Sabin & Page, harness,	50 00	
P. A. McVicar, repairs on wagon,	46 70	
Frost & Adams, supplies,	46 41	
A. R. Gay & Co., "	27 74	
S. F. Cate, use of horse and carriage,	17 50	
Buff & Berger, supplies,	16 00	
Milo Lucas, stakes,	15 34	
M. Safford, supplies,	5 50	
J. Carroll, "	2 75	
W. W. Perry, "	2 75	
Total, as per item No. 6 of expenses,		\$2,996 59
Balance unexpended, transferred into Treasury,		\$3 41

## CITY HALL.

## Fuel, Lights, and Contingent Expenses.

Appropriation,		\$2,500 00
J. D. Wellington, City Messenger,	\$800 00	
N. & W. Gas Light Co., gas,	583 80	
<i>Amounts carried forward,</i>	<i>\$1,383 80</i>	<i>\$2,500 00</i>

<i>Amounts brought forward,</i>	\$1,383 80	\$2,500 00
Albert Brackett, coal,	369 87	
Milo Lucas, new floor, etc.,	267 49	
W. H. French & Co., material and labor,	91 60	
Water Department, use of water,	71 00	
A. J. Fiske & Co., material and labor,	54 20	
L. J. Kendall & Co., ice,	30 00	
J. D. Wellington, sundry cash expenses,	12 71	
P. A. McVicar, material and labor,	9 65	
J. A. Caldwell, rubber-hose,	9 20	
C. H. Jenison, expressage.	7 88	
C. F. Eddy & Co., coal,	6 00	
Michael Pillon, cleaning cesspool,	4 75	
Austin & Fellows, feather dusters,	3 50	
O. F. Lucas, furnace-pipe,	3 40	
C. V. Knowles, glazing,	2 50	
G. H. Ingraham, supplies,	2 00	
C. H. Stacy, “	2 00	
H. P. Barber, “	1 64	
<hr/>		
Total, as per item No. 7 of expenses,		\$2,333 19
<hr/>		
Balance unexpended, transferred into Treasury,		\$166 81

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#### TAXES, 1878: STATE.

Amount assessed for State Tax,	\$16,080 00
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#### EXPENDED.

Amount paid to State Treasurer, as per item No. 9 of expenses,	\$16,080 00
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#### TAXES, 1878: COUNTY.

Amount assessed for County Tax,	\$11,615 58
Amount paid to County Treasurer, as per item No. 10 of expenses,	\$11,615 58

**CONVEYANCE OF PUPILS.**

Appropriation,		\$900 00
James S. Newell,	\$900 00	
Total, as per item No. 11 of expenses,		\$900 00

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**CURBING.**

Appropriation,		\$1,000
Noah Prescott, curbstones,	\$735 62	
Boston & Albany Railroad, freight,	259 00	
Paul & Cleaveland, cement,	485	
Total, as per item No. 12 of expenses,		\$999 47
Balance unexpended, transferred in Treasury,		53

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**CONCRETE SIDEWALKS.**

Appropriation,		\$3,000 00
Simpson Bros., concreting,	\$3,000 00	
Total, as per item No. 13 of expenses,		\$3,000 00

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**COMMISSIONERS FOR SEWERAGE.**

Appropriation,		\$2,000 00
Shedd & Sawyer, services as engineers,	\$2,000 00	
Total, as per item No. 14 of expenses,		\$2,000 00

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**DRAINS AND CULVERTS.**

Appropriation,		\$3,000 00
Transferred, from gravel land,		1,622 16
<i>Amount carried forward,</i>		\$4,622 16



<i>Amount brought forward,</i>		\$4,622 16
A. R. Carter, labor, men, and teams,	\$3,287 43	
F. E. Hamblin, drain-pipe, etc.,	2,716 94	
E. J. Collins, Treasurer, amount paid on account of discharged tickets for labor,	545 01	
Noah Prescott, covering stones,	221 77	
Andrew Peters, blacksmithing,	199 02	
Boston & Albany Railroad, freight,	166 50	
New York & New England Railroad,	95 10	
Francis Butterick, lumber,	32 80	
Paul & Cleaveland, cement,	1 35	
Otis Pettee & Co., timber,	1 00	
<hr/>		
Total, as per item No. 13 of expenses,		\$7,266 92
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Balance overdrawn, transferred into Treasury,		\$2,644 76

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#### **EVENING SCHOOLS.**

Appropriation,		\$600 00
William N. White, teacher,	\$114 00	
Daniel W. Barber, “	132 60	
Edward E. Sparhawk, “	34 80	
Emma B. Wilkins, “	94 80	
Julia A. Robinson, “	57 00	
Mary E. Wild, “	36 00	
Rebecca E. Sparrow, “	28 50	
Isabel M. Ayers, “	37 80	
John McCamman, Janitor	48 36	
George H. Adams, supplies,	14 14	
James McDonald, posting notices,	2 00	
<hr/>		
Total, as per item No. 16 of expenses,		\$600 00

## FIRE DEPARTMENT.

Appropriation,

\$23,000 00

## Board of Engineers.

George H. Ellis, services		
as Chief Engineer,	\$1,500	00
Henry L. Bixby, services		
as Asst. Engineer,	300	00
Edwin O. Childs, services		
as Clerk of Board,	100	00
	————	\$1,900 00

## Steamer No. 1.

F. E. Judkins, Engineer,	933	33	
H. C. Lindley, Acting En-			
gineer,	34	75	
F. H. Harrington, Driver,	569	99	
George S. Holmes, Acting			
Driver,	116	67	
H. C. Lindley, Acting Driver,	73	65	
H. C. Lindley, Stoker,	100	00	
Wm. H. Park, Jr., Foreman,	80	00	
Henry J. Bemis, Assistant			
Foreman,	22	75	
C. E. F. Ross, Assistant			
Foreman,	42	25	
George H. Belcher, Clerk,	65	00	
O. F. Hamblin, Hoseman, .	60	00	
Andrew F. Nutting, Hoseman,	60	00	
Edward Pike, Jr., “	60	00	
Elias W. Caswell, “	60	00	
Chas. A. Estabrook, “	60	00	
George W. Lamson, Jr., “	39	00	
A. J. Balson, “	35	00	
George S. Holmes, “	34	00	
George R. Aston, “	25	00	
	————	————	————
<i>Am'ts carried forw'd,</i>	\$2,471 39	\$1,900 00	\$23,000 00

<i>Am'ts brought forw'd,</i>	\$2,471 39	\$1,900 00	\$23,000 00
Henry H. Delano, Hoseman,	24 00		
John C. Sherburne, "	21 00		
B. F. Harriman, "	21 00		
F. L. Harriman, "	21 00		
A. L. Conant, "	10 00		
E. G. Brady, "	5 00		
T. W. Thompson, "	5 00		
	<hr/>	2,578 39	

**Steamer No. 2.**

R. S. Cummings, Engineer,	\$933 33		
M. J. Crawly, Acting "	34 75		
C. L. Berry, Driver,	733 32		
M. J. Crawly, Acting Driver,	26 99		
M. J. Crawly, Stoker,	100 00		
George H. Haynes, Foreman,	80 00		
F. H. Humphrey, Asst. "	65 00		
F. A. Barrows, Clerk,	65 00		
J. Q. A. Hawkes, Hoseman,	60 00		
C. V. Knowles, "	60 00		
George W. Simpson, "	60 00		
D. J. Knowles, "	60 00		
H. A. Waterhouse, "	60 00		
Fred T. Burgess, "	60 00		
W. A. Whitaker, "	60 00		
Chas. A. Cole, "	60 00		
Fred H. Cole, "	60 00		
	<hr/>	\$2,578 39	

**Steamer No 3.**

A. D. Colby, Engineer,	\$933 33		
A. C. Jewett, Acting Engin'r,	35 00		
E. C. Holmes, Driver,	733 32		
A. C. Jewett, Acting Driver,	26 99		
A. C. Jewett, Stoker,	100 00		

<i>Am'ts carried forw'd,</i>	\$1,828 64	\$7,056 78	\$23,000 00
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<i>Am'ts brought forw'd,</i>	\$1,828 64	\$7,056 78	\$23,000 00
William Bemis, Foreman,	80 00		
A. J. English, Asst. "	65 00		
Chas. A. Peck, Clerk,	65 00		
H. G. Sawyer, Hoseman,	60 00		
S. F. Chadbourne, "	60 00		
Chas. B. Garey, "	60 00		
John Davidson, "	60 00		
Vando Martin, "	60 00		
Daniel McDonald, "	60 00		
C. G. Kelsey, "	60 00		
William Bliss, "	60 00		
George Hopping, "	30 00		
Geo. F. Richardson, "	25 00		
	<hr/>	2,573 64	

**Hook and Ladder No. 1.**

Charles Murphy, Driver,	\$733 32		
F. B. Sisson, Acting Driver,	26 99		
S. E. Wetherbee, Foreman,	80 00		
W. S. Higgins, Asst. Fore-			
man,	65 00		
U. H. Dyer, Clerk,	65 00		
L. H. Cranitch, Ladderman,	60 00		
R. F. Cranitch, "	60 00		
J. H. Gilman, "	60 00		
J. H. Williams, "	60 00		
O. Dow, "	60 00		
F. B. Sisson, "	60 00		
J. E. Watson, "	60 00		
A. Danforth, "	60 00		
F. Pitt, "	45 00		
H. Baldwin, "	10 00		
A. O. Davis, "	5 00		
	<hr/>	\$1,510 31	

<i>Amounts carried forward,</i>	<hr/>	<hr/>	<hr/>
	\$11,140 73	\$23,000 00	

*Amounts brought forward,*                      \$11,140 73    \$23,000 00

**Hose Co. No. 4.**

E. C. Waterhouse, Foreman,	\$78 75	
R. H. Hill, Secretary,	37 92	
Joseph Fontaine, Secretary,	27 08	
John Deary, Hoseman,	60 00	
F. A. Dexter,    “	60 00	
J. F. Horrigan,    “	55 00	
Joseph Fontaine,    “	35 00	
Albert O. Davis,    “	20 00	
E. P. Bessie,    “	6 66	
R. H. Hill,    “	5 00	
	————	\$385 41

**Hose Co. No. 5.**

F. B. Fletcher, Foreman,	\$61 55	
J. H. Dolliver, Secretary,	48 75	
J. S. Earle, Hoseman,	46 15	
C. G. Fletcher, Hoseman,	46 15	
A. H. Richards,    “	46 15	
Wm. F. Soule,    “	46 15	
	————	\$294 90

**Hose Co. No. 6.**

Frank B. Reed, Foreman,	\$80 00	
Bernard Early, Secretary,	65 00	
William Leonard, Hoseman,	60 00	
John Kenney,    “	60 00	
George Reed,    “	60 00	
George W. Harrison,    “	50 00	
Charles Brown,    “	10 00	
	————	\$385 00

*Amounts carried forward,*                      \$12,206 04    \$23,000 00

*Amounts brought forward,* \$12,206 04 \$23,000 00

**Hose Co. No. 7.**

Charles W. Randall, Fore-		
man,	\$80 00	
Benj. Hopkins, Secretary,	65 00	
W. S. Cargill, Hoseman,	60 00	
R. H. Hodgson, “	60 00	
H. A. Smith, “	60 00	
H. H. Easterbrook “	60 00	
	-----	\$385 00
Firemen, extra service, July 4,	48 00	
		<hr/>
		\$12,639 04

**Repairs, Supplies, and Incidentals.**

Highway Department, keeping horses,	\$2,868 51	
J. C. Farrar, Wheels, Pung, etc.,	363 65	
Newton & Watertown Gas Light Co.,		
gas,	330 60	
Water Department, use of water,	199 58	
W. A. Rogers, one bay horse,	200 00	
H. S. Brown, one chestnut horse,	150 00	
James Boyd & Sons, hose and re-		
pairs,	162 91	
W. C. Smith, patent hitches,	100 25	
George W. Simmons & Co., 12 over-		
coats,	60 00	
Sabin & Page, blankets,	60 00	
M. G. Crane, Agt., hose-brakes, etc.,	42 00	
J. P. Haulenbest, 2 registering instru-		
ments,	30 00	
Hunneman & Co., lanterns, etc.,	28 50	
R. J. Gillfeather, harness, etc.,	23 50	
F. E. Jenison, soap,	22 00	
Manchester Locomotive Works, wheel		
hub-boxes,	21 25	
A. W. Mitchell & Co., badges,	21 00	
James Anderson, clock,	20 00	
	<hr/>	
<i>Amounts carried forward,</i>	\$17,342 79	\$23,000 00

<i>Amounts brought forward,</i>	\$17,342 79	\$23,000 00
De Voursney Bros., lanterns,	20 00	
Packard & Burrell, brushes,	15 00	
George H. Ellis, sundry cash payments,	11 50	
H. N. Hyde, Jr., removing snow from hydrants,	9 00	
W. E. Plummer, rent of stable,	8 33	
C. H. Jenison, expressage,	5 65	
Conants & Sanborn, box soap,	5 50	
John Cunningham, clearing hydrants,	5 00	
Mrs. Edson Holmes, laundry work,	69 11	
E. B. Blackwell, “	60 28	
M. A. Crowley, “	59 58	
Bernard Early, “	51 99	
Charles Murphy, “	51 40	
S. F. Cate, carriage-hire,	32 00	
F. E. Wallingford, carriage-hire,	7 50	
Albert Brackett, coal and wood,	678 35	
J. W. Pearson, “ “	28 00	
Cousens Bros., “ “	15 00	
C. F. Eddy & Co., “ “	11 50	
James Nickelson, “ “	10 50	
Waters & Inman, “ “	6 00	
Paul & Cleaveland, “ “	6 00	
D. F. Young, “ “	6 00	
Daniel Warren, “ “	2 75	
T. F. Glennan, material and labor,	124 80	
C. H. Robertson, “ “	83 05	
J. Langtry, “ “	74 95	
Ryan Bros., “ “	69 95	
Orrin Whipple, “ “	68 71	
D. F. Fahren, “ “	42 10	
M. Hewitt, “ “	31 25	
Charles A. Cole, “ “	26 90	
A. Danforth & Co., “ “	22 00	
<i>Amounts carried forward,</i>	\$19,062 44	\$23,000 00

<i>Amounts brought forward,</i>	\$19,062 44	\$23,000 00
J. O. Evans & Son, material and labor,	18 68	
Collin Cady, " "	14 81	
F. & W. Clark, " "	14 10	
A. J. Fiske & Co., " "	13 92	
W. W. Perry, " "	11 58	
J. Carroll, " "	10 85	
W. B. Neil, " "	7 62	
Cranitch & Horrigan, " "	6 50	
Ross & Murry, " "	6 50	
J. E. Trowbridge, " "	6 10	
Adam Beck, " "	6 10	
A. B. Crane, " "	5 50	
Edward Pike, " "	5 49	
W. G. Fellows, supplies,	31 21	
W. O. Knapp, Agt., supplies,	24 11	
Paine & Morehouse, " "	13 23	
John Holman & Co., " "	12 38	
Oscar F. Howe, " "	11 00	
H. M. Darling & Co., " "	9 80	
Howes & Brown, " "	5 81	
B. F. Houghton, " "	5 76	
Isaac H. Snow, " "	5 50	
Newton Ice Co., Ice,	13 00	
George H. Ellis, " "	12 50	
Howard Bros., " "	12 50	
L. J. Kendall, " "	9 50	
Sundry small bills,	123 69	

#### Fire Alarm Telegraph.

Stearns & George, vitrol, etc.,	\$239 34
Moses G. Crane, Agt., sup- plies,	169 83
George H. Ellis, sundry cash payments,	98 15
Jos. W. Stover, vitrol,	28 44

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*Am'ts carried forw'd,*      \$535 76 \$19,480 18      \$23,000 00



<i>Am'ts brought forw'd,</i>	\$535 76	\$19,480 18	\$23,000 00
J. C. Farrar, material and labor,	21 50		
Warren Ellis, telegraph posts,	20 00		
Highway Department, keeping horse,	12 00		
C. H. Robertson, material and labor,	9 95		
N. & W. Gas Light Co., gas,	4 50		
Dillingham's Express, expressage,	2 95		
Howes & Brown, supplies,	1 35		
		608 01	
Total, as per item No. 17 of expenses,			20,088 19
Balance unexpended, transferred into Treasury,			\$2,911 81

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**GRAVEL LAND.**

Appropriation,	\$3,000 00	
Transferred to Drains and Culverts,	1,622 16	
		\$1,377 84
John McCarty, breaking stone,	\$218 78	
Simon Foley, " "	218 66	
William Kiley, " "	117 50	
Alexander Welch, " "	85 91	
William Donahoe, " "	58 50	
N. R. Harback, gravel,	181 80	
G. J. Carlton, " "	149 90	
R. R. Bishop, stone,	107 75	
Matthew Connors, gravel,	84 80	
John Ward, stone,	43 32	
Seth Davis, stone, etc.,	29 90	
Charles Linnehan, rubble and gravel,	21 50	
Thomas Croker, stone,	20 00	
<i>Amounts carried forward,</i>	\$1,338 32	\$1,377 84

<i>Amounts brought forward,</i>	\$1,338 32	\$1,377 84
H. C. Cook, stone,	10 00	
F. C. Hills, gravel,	6 00	
Michael Cochran, stone,	5 00	
Timothy Sullivan, gravel,	5 00	
William Doyle, “	1 00	.
	<hr/>	
Total, as per item No. 18 of expenses,		\$1,365 32
		<hr/>
Balance unexpended, transferred into Treasury,		\$12 52

### HIGHWAYS, GENERAL REPAIRS.

Appropriation,		\$35,000 00
Additional appropriation, by order City Council,		10,000 00
		<hr/>
		\$45,000 00
A. R. Carter, services as Superintendent of Streets,	\$1,400 00	
John J. Ware, services as Assistant, etc.,	864 05	
D. C. Morgan, services as Assistant, etc.,	867 75	
J. A. Peck, services as Assistant, etc.,	863 51	
W. E. Fuller, services as Assistant, etc.,	860 75	
E. D. Brooks, services as Assistant, etc.,	327 05	
A. R. Carter, laborers on highways, as per pay-rolls,	20,541 41	
E. J. Collins, Treasurer, amount paid on discharged tickets,	4,108 12	
Simpson Bros., concreting,	2,454 46	
Noah Prescott, stone,	505 72	
C. F. Eddy & Co., grain, etc.,	1,200 97	
	<hr/>	
<i>Amounts carried forward,</i>	\$33,993 79	\$45,000 00

<i>Amounts brought forward,</i>	\$33,993 79	\$45,000 00
Albert Brackett, grain, etc.,	874 44	
B. F. Tyler, " "	701 27	
Greenwood & Co., " "	311 55	
E. Smead & Co., " "	219 09	
H. E. Shepherd & Co., grain, etc.,	117 57	
Almshouse Department, hay,	437 58	
H. L. Hovey, " "	310 98	
Eben Stone, " "	173 40	
Amasa Collins, " "	165 69	
Benj. F. Cutter, " "	78 67	
J. D. & W. Dix, " "	53 73	
Amos L. Hale, " "	53 25	
J. F. Edmands, " "	38 75	
Augustus Allen, straw,	34 27	
J. C. Farrar, blacksmithing,	604 52	
A. Peters, " "	529 66	
M. Hewitt, " "	380 07	
Charles A. Cole, " "	371 95	
A. Danforth & Co. " "	291 96	
Thomas Belger, " "	259 94	
D. F. Fahen, blacksmithing,	146 40	
R. H. Hodgson, " "	123 10	
Nugent & Hewitt, " "	72 97	
M. Nugent, " "	57 64	
Emerson & Porter, horses,	675 00	
Newton National Bank, stone,	421 65	
Kendall & Roberts, material and labor,	467 61	
S. D. Garey, " "	337 29	
Orrin Whipple, " "	256 01	
P. A. McVicar, " "	152 22	
George W. Keyes, " "	144 26	
J. Pulcifer, " "	124 95	
J. O. Evans & Son, " "	115 02	
William Welch, " "	116 34	
Adam Beck, " "	99 39	
<i>Amounts carried forward,</i>	\$43,311 98	\$45,000 00

<i>Amounts brought forward,</i>	\$43,311 98	\$45,000 00
W. W. Perry, material and labor,	81 63	
J. Carrall, " "	78 51	
Allen Jordan " "	60 20	
V. Haffermehl, " "	51 98	
A. J. Fiske & Co., " "	48 49	
McLean & Henderson " "	44 42	
J. Langtry, " "	38 90	
P. Keegan, " "	31 60	
C. H. Robertson, " "	31 20	
W. F. Rand, " "	30 50	
W. H. French & Co., " "	30 17	
William Petigrew, " "	29 56	
R. F. Cranitch, " "	29 00	
William Johnson, " "	24 35	
Cranitch & Horrigan, " "	23 55	
Paine & Morehouse, " "	22 08	
R. Curry, " "	17 75	
W. A. Roffe, " "	17 75	
P. Lovely, " "	14 65	
Collin Cady, " "	7 89	
J. D. Billings, " "	7 05	
Ross & Murray, " "	5 50	
Francis Buttrick, lumber,	347 01	
Water Department, use of water,	229 58	
J. D. Willis, horse,	175 00	
Waters & Inman, coal and cement,	199 29	
Rockwell and Moseley, powder and fuse,	157 00	
N. & W. Gaslight Co., gas,	152 70	
H. M. Darling & Co., shovels, etc.,	140 25	
F. E. Hamblin, drain-pipe, etc.,	143 74	
John Joyce, building wall,	125 00	
J. W. Pearson, coal,	120 65	
Boston & Albany Railroad, freight,	115 29	
Boston Machine Co., castings,	130 70	
Granville Fuller, rent of land,	100 00	
<i>Amounts carried forward,</i>	<hr/> \$46,174 92	<hr/> \$45,000 00

<i>Amounts brought forward,</i>	\$46,174 92	\$45,000 00
C. H. Bill & Son, shovels, etc.,	90 75	
Wm. H. Mague, use of horses, etc.,	96 87	
James Boyd & Son, harness and reins,	86 00	
Davis & Farnum Manf. Co., castings, etc.,	80 92	
Sabin & Page, blankets,	80 00	
George S. Lewis, services,	70 97	
Royal Gilkey, lumber,	62 10	
Asahel Wheeler, paint, etc.,	60 75	
Dr. E. F. Thayer, care of horses and medicine,	49 50	
F. E. Wallingford, use of horse, etc.,	49 00	
Milo Lucas, repairs, etc.,	47 39	
John A. Peck, use of horse,	45 00	
J. L. Knox, stone-work,	37 06	
W. E. Fuller, use of horse,	35 00	
S. F. Cate, carriage-hire,	31 50	
Joseph Breck & Son, hay-cutter,	28 00	
Daniel Condryn, use of stone-wagon, etc.,	24 50	
Parker & Gannett, hay-cutter-head, etc.,	23 75	
F. & W. Clark, repairs on harness, etc.,	28 50	
Smith, Doolittle, & Smith, liniment,	18 75	
Felix Donland, paving-stone,	18 50	
Mr. Crane, " "	8 00	
Obed Porter, building wall and painting fence,	18 16	
Paul & Cleaveland, coal, etc.,	15 65	
C. Decker, labor, men, and teams,	16 55	
Dr. L. R. Stone, prof. services,	14 00	
D. C. Morgan, sundry cash expenses,	12 12	
Simon Foley, labor on stone,	10 00	
Thomas McCarty, labor on stone,	10 00	
D. Frank Young, coal,	10 00	
T. Stuart, labor with team,	9 50	
C. O. Crane & Co., oil,	8 50	
E. J. Peck, laundry work,	8 00	
<i>Amounts carried forward,</i>	<hr/> \$47,380 21	<hr/> \$45,000 00

<i>Amounts brought forward,</i>	\$47,380 21	\$45,000 00
O. F. Lucas, work on fence,	6 75	
Daniel Warren, grain,	6 25	
Arthur Muldoon, labor,	6 00	
Heirs of J. A. Kenrick, pasturing,	5 00	
Patrick Grace, use of water-carts,	5 00	
B. F. Houghton, supplies,	66 88	
A. B. Tainter,       “	40 55	
Mr. Kingsbury,       “	15 59	
Isaac H. Snow,       “	14 42	
Geo. A. Taylor,       “	12 03	
Blanchard & Atkins, supplies,	8 84	
G. Wadleigh,       “	6 15	
F. & G. Robinson,       “	3 97	
Harris Express, expressage,	43 75	
F. Jones,       “	18 00	
C. H. Hurd,       “	6 10	
C. H. Jenison,       “	5 90	
T. L. Whitton,       “	1 50	
A. R. Carter, sundry cash expenses,	6 50	
Sundry small bills,	47 47	
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Total, as per item No. 19 of expenses,		\$47,706 86
		<hr/>
Balance overdrawn, transferred into Treasury,		\$2,706 86

#### HIGHWAYS, WIDENING AND IMPROVEMENTS.

Appropriation,		\$8,000 00
Labor, men, and teams, Beacon		
Street,	\$1,153 21	
Labor, men, and teams, Ward Street,	998 00	
“   “   “   “   Walnut   “	980 80	
“   “   “   “           Ellis and		
Church Streets,	908 83	
	<hr/>	<hr/>
<i>Amounts carried forward,</i>	\$4,040 84	\$8,000 00











<i>Amounts brought forward,</i>	\$4,040 84	\$8,000 00
Labor, men, and teams, Washington Street,	864 45	
Labor, men, and teams, Walnut Street Extension,	733 17	
Labor, men, and teams, Station Street,	601 25	
“ “ “ “ Sumner “	300 00	
“ “ “ “ Lowell “	300 00	
“ “ “ “ Ellis “	236 00	
“ “ “ “ Oak “	90 77	
“ “ “ “ Crafts “	55 85	
“ “ “ “ Needham “	25 51	
Noah Prescott, stone,	496 30	
Rockwell & Moseley, powder,	155 50	
Arthur Muldoon, pointing-wall,	54 25	
C. G. Crockett, use of derrick,	29 00	
J. L. Knox, stone-work,	14 11	
G. S. Lewis, services,	3 00	
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Total, as per item No. 20 of expenses,		\$8,000 00

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#### INDUSTRIAL AND MECHANICAL DRAWING.

Appropriation,	\$500 00	
Transferred to General Appropriation for Schools,	214 80	
	<hr/>	
		\$285 20
A. Hun Berry, instructor,	\$160 00	
John Cummings, janitor,	7 50	
Thomas Woodman, “	7 50	
Wadsworth Bros. & Howland, supplies,	5 50	
	<hr/>	
Total, as per item No. 21 of expenses,		\$180 50
		<hr/>
Balance unexpended, transferred into Treasury,		\$104 70

**INTEREST ON CITY LOANS, TEMPORARY AND  
PERMANENT.**

Appropriation,	\$32,000 00	
Transferred to Lighting Streets,	1,250 00	
	<hr/>	\$30,750 00
Commonwealth of Massachusetts,	\$18,285 00	
City Institution for Savings, Lowell,	4,800 00	
Boston Five Cent Savings Bank,	4,400 00	
Municipal Bonds,	1,700 00	
Kenrick Fund, etc.,	82 08	
	<hr/>	
Total, as per item No. 22 of expenses,		\$29,267 08
		<hr/>
Balance unexpended, transferred into Treasury,		\$1,482 92

**INTEREST ON WATER BONDS.**

Appropriation,		\$44,800 00
National Bank of the Common- wealth,	\$22,275 00	
National Bank of the Common- wealth,	22,525 00	
	<hr/>	
Total, as per item No. 23 of expenses,		\$44,800 00

**LAND DAMAGES.**

Appropriation,		\$2,000 00
Emily W. Pierce, land on Walnut street,	\$733 42	
J. J. Walworth, land on Walnut street,	100 00	
B. Farrall, land on Crafts street,	127 99	
John W. Butts, land on Chestnut street,	100 00	
Material and labor widening Otis street, by order of City Council,	250 00	
	<hr/>	
Total, as per item No. 25 of expenses,		\$1,311 41
		<hr/>
Balance unexpended, transferred into Treasury,		\$688 59

**LIGHTING STREETS.**

Appropriation,	\$21,000 00	
Transferred from Interest on City Loans,	1,250 00	\$22,250 00
	<hr/>	
Newton & Watertown Gas Light Co., gas and care of street lamps,	\$14,913 08	
Newton & Watertown Gas Light Co., repairs, etc.,	278 48	
Globe Gas Light Co., lighting and care of street lamps,	6,527 00	
Globe Gas Light Co., repairs, etc.,	6 00	
Davis & Farnum Manufacturing Co., iron posts,	405 00	
John Binney & Son, lanterns, etc.,	225 75	
W. J. Towne, lighting, care, etc., of lamp,	18 75	
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Total, as per item No. 26 of expenses,		\$22,374 06
		<hr/>
Balance overdrawn, transferred into Treasury,		\$124 06

**MEMORIAL DAY.**

Appropriation,		\$300 00
W. A. Wetherbee, Quarter-master, G.A.R.,	\$300 00	
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Total, as per item No. 27 of expenses,		\$300 00

**MISCELLANEOUS EXPENSES.**

Appropriation,		\$5,000 00
A. R. Carter, labor, men, and teams,	\$1,240 25	
Noah Prescott, stone,	237 10	
	<hr/>	
<i>Am'ts car'd forw'd,</i>	\$1,477 35	\$5,000 00

<i>Am'ts bro't forw'd,</i>	\$1,477 35	\$5,000 00
Boston & Albany Rail- road, freight,	203 50	
	<hr/>	\$1,680 85

The above was for the construction of drain in Auburn street, by order of City Council.

R. L. Hinds, labor of men,	\$411 75	
Fiske & Coleman, drain- pipe,	421 44	
Davis & Farnum Manu- facturing Co., grates,	5 88	
William Pettigrew, ma- terial and labor,	2 92	
Paine & Morehouse, ma- terial and labor,	2 60	
W. H. French & Co., pipe,	1 40	
C. F. Eddy & Co., ce- ment and sand,	1 00	
	<hr/>	846 99

The above was for the construction of drain in Melrose street, by order of Board of Health.

Peter Thacher, witnesses, costs, etc., in suits,	354 88	
T. Stuart, watering streets in Wards 1 and 7,	150 00	
F. H. Hunting, watering streets in Ward 2,	112 50	
J. F. C. Hyde, premiums on In- surance,	130 00	
J. E. Warner, returns of births,	122 70	
R. M. Lucas, serving notices, etc.,	121 70	
George F. Morgan, abstract of deeds for assessors,	120 96	
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<i>Amounts carried forward,</i>	\$3,640 58	\$5,000 00
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<i>Amounts brought forward,</i>	-\$3,640 58	\$5,000 00
S. F. Cate, carriages, Memorial day, etc.,	86 25	
E. O. Childs, cash expenses,	65 05	
C. H. Stacy, telegrams, etc.,	44 14	
B. F. Otis, cash expenses,	37 75	
E. J. Collins, cash expenses,	26 73	
Isaac Hagar, " "	22 87	
Samuel M. Jackson, use of horse and carriage,	80 00	
N. J. Bradley, examination Hyde School-House,	50 00	
Edward Hinds, stone,	35 00	
W. H. Mague, returns of deaths,	38 00	
H. R. Robbins, " " "	24 00	
James McGourty, " " "	10 00	
John A. Peck, " " "	6 75	
H. W. Fanning & Son, on account assignment by E. L. Grant,	22 75	
A. G. Tupper, fitting up ward-room,	20 95	
Boston Safe Deposit & Trust Co., rent of box,	20 00	
Thomas Woodman, ringing bell and care of ward-room,	18 00	
C. H. Hovey & Co., bouquets, Me- morial Day,	16 00	
Boston Daily Advertiser, subscription,	14 28	
Thomas D. Poole, stamp dies,	13 75	
C. F. Rand, paid for fitting up ward- room,	12 50	
M. A. Powers, services on records,	10 00	
M. C. Laffee, ringing bell,	8 00	
Benj. H. Hoar, " "	6 00	
B. H. Huestis, " "	6 00	
W. T. Langdon, " "	6 00	
William Parker, " "	3 00	
<i>Amounts carried forward,</i>	<hr/> \$4,344 35	<hr/> \$5,000 00

<i>Amounts brought forward,</i>	\$4,344 35	\$5,000 00
E. F. Moses, ringing bell,	3 00	
Robert Turner, " "	3 00	
William Jenness, " "	2 00	
Charles L. Wilson, returns of deaths,	5 50	
Arthur Hudson, supplies,	4 50	
Newton Cemetery, pails, tin dippers, etc.,	3 80	
Frederick Small, repairing stamps, etc.,	3 75	
J. E. Munroe, serving notices,	2 20	
J. H. Nickerson, repairing flag,	2 00	
Joseph Huestis, taking returns of elec- tions,	2 00	
D. D. Bond, taking returns of elections,	1 50	
D. A. Chamberlain, services as janitor,	3 00	
Peter Lee, killing two dogs,	2 00	
Patrick Coleman, burying two dogs,	2 00	
D. Murphy & Co., killing two dogs,	2 00	
Michael Sheehan, burying one dog,	1 00	
John J. Coffey, " " "	1 00	
William Segreve, " " hog,	1 00	
Matthew Doherity, " " dog,	1 00	
James E. Cahill, carriage-hire,	1 50	
J. D. Wellington, glass jar,	75	
C. F. Rogers, composition,	70	
Martin Barrett, killing two dogs,	2 00	
Stephen Thacher, services as warden,	4 00	
J. H. Dolliver, " " "	4 00	
Lewis E. Coffin, " " "	4 00	
Wm. S. Cargill, " " "	4 00	
B. Lentell, " " "	2 00	
I. N. Peabody, " " "	2 00	
W. E. Barker, " " clerk,	4 00	
H. H. Mather, " " "	4 00	
E. H. Mason, " " "	4 00	
<i>Amounts carried forward,</i>	<hr/> \$4,427 55	<hr/> \$5,000 00



<i>Amounts brought forward,</i>				\$4,427 55	\$5,000 00
Chas. H. Noyes,	services	as	clerk,	4 00	
Robt. P. Gould,	"	"	"	4 00	
J. E. Warner,	"	"	"	2 00	
J. W. French,	"	"	"	2 00	
W. G. Fellows,	"	"	inspector,	4 00	
S. E. Wetherbee,	"	"	"	4 00	
O. F. Lucas,	"	"	"	4 00	
F. E. Hunter,	"	"	"	4 00	
C. A. Moulton,	"	"	"	4 00	
H. G. Hildreth,	"	"	"	4 00	
Fred. B. Gordon,	"	"	"	4 00	
Edward A. Ellis,	"	"	"	4 00	
B. F. Tyler,	"	"	"	4 00	
Frank Edmands,	"	"	"	4 00	
Frederick Jackson,	"	"	"	4 00	
Henry B. Wells,	"	"	"	4 00	
L. A. Ellis,	"	"	"	4 00	
John A. Evans,	"	"	"	4 00	
A. T. Cottrell,	"	"	"	4 00	
Geo. E. Wales,	"	"	"	4 00	
John T. Thomason,	"	"	"	4 00	
John E. Butler,	"	"	"	4 00	
Dexter Whipple,	"	"	"	4 00	
Saml. W. Kendall,	"	"	"	4 00	
S. H. Leonard, Jr.,	"	"	"	2 00	
S. D. Linahan,	"	"	"	2 00	
E. A. Ellis,	taking returns to City				
Hall,				1 50	
Total, as per item No. 28 of expenses,					\$4,525 05
Balance, unexpended, transferred into Treasury.					\$474 95

## NEWTON FREE LIBRARY.

\$7,500 00

Appropriation,	
Frederick Jackson, subscriptions, etc.,	\$363 72
Hannah P. James, services, librarian,	800 01
Caroline B. Jackson, " asst. "	500 01
Louise J. Smallwood, " " "	280 25
Etta P. Cleaveland, " " "	268 95
Millie E. Michaels, " " "	171 54
Minnie A. Gage, " " "	49 42
James J. Tower, " janitor,	600 00
A. Williams & Co., books,	1,004 38
Henry Sotheran & Co., "	578 42
Lockwood, Brooks & Co., books,	162 92
N. J. Bartlett & Co., "	107 88
L. W. & E. B. Fairchild, "	51 00
Estes & Lauriat, "	28 05
Snow, Noyes, & Co., "	19 75
Prince Society, "	11 50
James Littlefield, "	10 00
Stephen Holmes, material and labor,	347 50
Orrin Whipple, " "	226 54
L. S. Holman, " " "	34 61
Newton & Watertown Gas Light Co., gas,	597 00
Albert Brackett, coal,	157 82
Melvil Dewey, secretary, supplies,	152 92
Pulsifer, Jordan, & Wilson, "	33 04
Thayer & Stiles, "	30 68
Burditt & Williams, "	17 33
North American Review, "	5 00
Rose Belford Publishing Co., "	4 00
S. T. Blanchard, binding, etc.,	255 72
Robert Burlin, " "	32 20
George P. Clark, gas-fixtures, etc.,	53 80
Rockwell & Churchill, printing, etc.,	32 50
Tarbell & Adams, " "	11 00
Howard Bros., ice,	20 00

*Amounts carried forward,*

\$7,019 46

\$7,500 00

<i>Amounts brought forward,</i>	\$7,019 46	\$7,500 00
Henry A. Hall, rubber-hose,	18 40	
Patterson & Lavender, chairs, etc.,	17 00	
Morse & Boyden, chairs, etc.,	15 00	
Norcross Regulator Co., regulator,	15 40	
Charlotte A. Wilkins, services, assistant librarian,	13 41	
N. L. Chamberlin, stamp,	12 00	
F. & E. Garland, expressage,	154 40	
T. L. Whiton, “	31 20	
C. H. Jenison, “	25 00	
W. D. Lathrop, “	25 00	
McIntosh Express, “	15 60	
W. G. Bosworth, “	5 20	
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Total, as per item No. 29 of expenses,		\$7,367 07
		<hr/>
Balance unexpended, transferred into Treasury,		\$132 93

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**POLICE DEPARTMENT.**

Appropriation, \$15,500 00

**Regular Police Officers.**

Revillo L. Hinds, City Marshal,	\$1,200 00
C. O. Davis, Sergeant of Police,	950 64
J. D. Henthorn,	900 00
George W. Rigby,	882 50
William C. Emerson,	849 66
G. E. F. Baker,	902 16
C. E. Davis,	894 66
N. F. Bosworth,	832 19
C. F. Richardson,	900 00
John Ryan,	849 66
C. P. Huestis,	782 50

<i>Amounts carried forward,</i>	<hr/> \$9,943 97	<hr/> \$15,500 00
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<i>Amounts brought forward,</i>	\$9,943 97	\$15,500 00
R. S. Harrison,	839 66	
George H. Marsh,	880 00	
E. G. Hurd,	516 57	
C. S. Roothby,	902 16	
R. H. Moulton,	51 78	
Otis Atherton,	51 78	
F. E. Tucker,	51 78	
	<hr/>	
	\$13,237 70	

#### Special Police Officers.

Charles L. Wilson,	\$302 50
J. C. Kennedy,	89 25
E. F. Moses,	45 00
Joseph Huestis,	17 50
	<hr/>
Total pay of Police Officers,	\$13,691 95

#### Incidental Expenses.

S. F. Cate, board of horse, etc.,	\$348 88
Highway Department, board of horse,	
Ward 6,	183 46
Draper & Hall, one black horse,	150 00
N. & W. Gas Light Co., gas,	108 00
Albert Brackett, coal,	55 97
J. C. Farrar, material and labor,	55 90
Water Department, use of water, etc.,	55 00
J. D. Henthorn, sundry cash expenses,	42 52
R. L. Hinds,       "       "       "	38 78
Hill & Langtry, supplies,	31 28
F. E. Wallingford, carriage-hire,	26 00
G. W. Bush,       "	25 00
P. A. McVicar, material and labor,	18 45
G. H. Marsh, sundry cash expenses,	16 00
C. H. Trott & Co., supplies,	10 50
E. C. Dudley, carriage-hire,	8 50
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<i>Amounts carried forward,</i>	\$14,866 19	\$15,500 00
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<i>Amounts brought forward,</i>	\$14,866 19	\$15,500 00
H. A. Winship, supplies,	8 50	
A. Danforth & Co., blacksmithing, etc.,	8 00	
Charles K. Darling, diaries,	7 00	
Dr. E. F. Thayer, care of sick horses,	5 00	
Sundry small bills,	59 65	
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Total, as per item No. 30 of expenses,		\$14,954 34
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Balance unexpended, transferred into Treasury,		\$545 66

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**POOR OUT OF ALMSHOUSE.**

Appropriation,		\$10,000 00
John Warner, services as almoner,	\$600 00	
John Warner, paid sundry poor persons,	496 65	
John Warner, services as Overseer,	50 00	
A. B. Cobb, " " Clerk in 1877,	150 00	
A. B. Cobb, " " Overseer in 1877,	50 00	
Elihu Smead, " " " " "	50 00	
O. F. Lucas, " " " " "	50 00	
I. W. Bird, " " " " "	50 00	
George Pettee, " " " " "	50 00	
George Warren, " " " " "	50 00	
Worcester Lunatic Hospital, care sundry persons,	589 76	
Asylum for Chronic Insane, care sundry persons,	412 05	
Taunton Lunatic Hospital, care sundry persons,	202 33	
Northampton Lunatic Hospital, care sundry persons,	198 45	
Commonwealth of Massachusetts, care sundry persons,	21 75	
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<i>Amounts carried forward,</i>	\$3,020 99	\$10,000 00

<i>Amounts brought forward;</i>	\$3,020 99	\$10,000 00
City of Boston, support of poor,	311 63	
City of Haverhill, " " "	88 91	
City of Fitchburg, " " "	50 00	
City of Fall River, " " "	44 88	
City of Lowell, " " "	16 00	
City of Chelsea, " " "	6 50	
Town of Canton, " " "	72 00	
Town of Malden, " " "	18 25	
Town of Orange, " " "	15 42	
Town of Natick, " " "	13 00	
Dr. S. A. Sylvester, medical attendance,	90 58	
Dr. D. Wayland Jones, " "	77 00	
Dr. F. E. Crockett, " "	58 83	
Dr. O. E. Hunt, " "	48 00	
Dr. W. H. Hildreth, " "	37 10	
Dr. F. D. Lord, " "	30 50	
Dr. F. E. Porter, " "	26 50	
Dr. Eben Thompson, " "	19 00	
Dr. H. B. Bradley, " "	18 00	
Dr. J. R. Deane, " "	16 00	
Dr. E. P. Scales, " "	12 00	
Dr. L. R. Stone, " "	10 00	
Dr. J. H. Bodge, " "	9 00	
Dr. H. M. Field, " "	5 00	
Wm. C. Gaudet, medical prescriptions,	41 20	
Arthur Hudson, " "	23 70	
C. Sargent Bird, " "	6 15	
John J. Noble, " "	70	
H. R. Robbins, services and expenses as undertaker,	67 00	
James McGourty, services and ex- penses as undertaker,	39 75	
Charles Cole, services and expenses as undertaker,	20 00	
J. H. Boit, services and expenses as undertaker,	6 00	
<i>Amounts carried forward,</i>	<hr/> \$4,319 59	<hr/> \$10,000 00

<i>Amounts brought forward,</i>	\$,4319 59	\$10,000 00
C. S. Butler, rent of house,	48 00	
M. R. Stevens, rent of house,	12 00	
Mrs. Susan T. Lathrop, board of poor,	77 14	
Mrs. C. C. Voorhees, " " "	53 00	
Mrs. Anna McLaughlin, " " "	12 00	
Mrs. Thos. Chadwick, nursing,	7 00	
J. W. Pearson, fuel for poor,	347 46	
Albert Brackett, " " "	317 31	
Waters & Inman, " " "	121 99	
Paul & Cleaveland, " " "	102 97	
James Nickelson, " " "	86 60	
C. F. Eddy & Co., " " "	21 47	
Daniel Warren, " " "	7 00	
C. Strout & Sons, groceries for poor,	389 00	
W. O. Knapp, agent, " " "	355 00	
H. S. Brady & Co., " " "	303 44	
G. Wadleigh, " " "	287 82	
J. B. Murphy, " " "	256 92	
Dimond & Wetherbee, " " "	155 80	
I. R. Stevens, " " "	131 11	
H. B. Coffin, " " "	79 95	
H. P. Barber, " " "	77 09	
H. A. Sherman, " " "	71 85	
H. W. Fanning & Son, " " "	71 45	
Greenwood & Co., " " "	69 55	
J. W. Davis, " " "	65 70	
T. B. Holden & Co., " " "	61 50	
C. C. Cook, " " "	49 02	
Blanchard & Atkins, " " "	44 00	
John W. Howe, " " "	29 03	
F. & G. Robinson, " " "	26 28	
M. J. Duane, " " "	25 06	
B. F. Houghton, " " "	24 30	
Robertson & Sherman, " " "	13 00	
George H. Adams, " " "	10 14	

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<i>Amounts carried forward,</i>	\$8,130 54	\$10,000 00
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<i>Amounts brought forward,</i>	\$8,130 54	\$10,000 00
B. Billings, groceries for poor,	9 48	
James Vickers, " " "	8 98	
F. B. Reed, provisions for poor,	12 83	
W. Henry Brackett, " " "	12 11	
Bacon & Randall, " " "	6 00	
H. C. Hoyt, sundry cash payments to poor,	16 50	
Amidon & Washburn, printing, etc.,	28 50	
H. M. Stimson, " "	8 00	
John Stearns, milk,	8 37	
J. E. Gammons, boots and shoes,	8 40	
M. R. Warren, blank book,	5 50	
J. H. Bacon, supplies,	5 01	
S. P. Whitman, Jr., hack-hire,	5 00	
C. O. Davis, cash expended for Nichols,	4 00	
W. G. Fellows, shoes,	2 63	
A. J. Gordon, "	2 00	
Charles H. Jenison, expressage,	2 50	
George L. Pearson, "	1 50	
Morse & Fitch, supplies,	2 25	
William Lowe, "	2 00	
F. E. Wallingford, carriage-hire,	2 00	

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Total, as per item No. 31 of expenses,	\$8,284 10
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Balance unexpended, transferred into Treasury,	\$1,715 90
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#### PUBLIC PROPERTY.

Appropriation,		\$12,500 00
Milo Lucas, on account engine-house,		
Upper Falls,	\$4,159 55	
S. F. Holway, on account Hyde school-		
house,	2,000 00	
Walker & Pratt Manuf. Co., furnaces,		
etc,	380 75	
<i>Amounts carried forward,</i>	\$6,540 30	\$12,500 00



<i>Amounts brought forward,</i>	\$6,540 30	\$12,500 00
Martha D. Barney, land at Upper Falls,	359 61	
S. P. Clark, fences, etc.,	354 63	
J. A. Doran, " " "	322 66	
Water Department, service-pipe, etc.,	322 06	
H. J. Preston, services as architect, etc.,	200 00	
Highway Department, labor, men, and teams,	146 50	
J. A. Caldwell, rubber-hose, etc.,	134 50	
Geo. F. Meacham, services as architect, etc.,	125 00	
Orrin Whipple, repairs, etc.,	117 99	
N. & W. Gas Light Co., gas,	117 05	
R. Hollings & Co., gas fixtures,	112 00	
F. E. Hamblin, drain-pipe,	87 50	
Tucker Manuf. Co., supplies,	87 20	
F. E. Stuart, settees,	76 42	
T. Stuart, material and labor,	70 84	
George W. Keyes, material and labor,	67 41	
J. D. Billings, " " "	66 85	
Adam Beck, " " "	46 50	
Samuel D. Garey, " " "	46 01	
E. H. Brabrook, furniture,	41 00	
John Holman & Co., supplies,	40 26	
W. H. French & Co., material and labor,	35 83	
S. F. Carrier, " " "	29 28	
L. A. Gammons, " " "	28 14	
J. O. Evans & Son, " " "	24 13	
A. G. Whitcomb, settees,	23 52	
A. J. Fisk & Co., material and labor,	22 56	
L. S. Holman, " " "	19 50	
Speare, Gregory, & Co., oil,	20 00	
J. C. Farrar, material and labor,	18 60	
Ross & Murry, iron posts,	17 00	
Thayer & Stiles, supplies,	15 75	
O. B. Leavitt & Co., repairs,	14 96	
<i>Amounts carried forward,</i>	<hr/> \$9,751 56	<hr/> \$12,500 00

<i>Amounts brought forward,</i>	\$9,751 56	\$12,500 00
Campbell Bros. & Co., repairs,	13 00	
Charles E. Small,	12 47	
Joel Goldthwaite & Co., carpets, etc.,	11 25	
M. Doherty, material and labor,	10 00	
E. B. Blackwell, supplies,	9 00	
Cranitch & Horrigan, glazing,	8 25	
R. Oldreive, privit and planting,	8 00	
J. J. Bragdon, expressage,	7 75	
Edward Pike, material and labor,	7 73	
Francis Murdock & Co., supplies,	7 10	
W. O. Knapp & Co.,        “	6 50	
J. L. Knox, stone-work,	6 25	
C. H. Grant, outside window,	6 00	
C. Needham, painting,	6 00	
Fletcher Bros., supplies,	5 82	
Edward Timony, whitewashing,	5 00	
Sundry small bills,	21 59	

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Total, as per item No. 32 of expenses,       \$9,903 27

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Balance unexpended, transferred into Treasury,       \$2,596 73

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#### PUBLIC SQUARES.

Appropriation,		\$500 00
A. R. Carter, labor, men, and teams,	\$500 00	
Total, as per item No. 33 of expenses,		\$500 00

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#### SALARIES.

Appropriation,		\$10,250 00
William B. Fowle, Mayor,	\$1,000 00	
E. J. Collins, Treasurer and Collector,	2,000 00	
E. J. Collins, for Assistant,	1,200 00	
Peter Thacher, City Solicitor,	1,000 00	
<i>Amounts carried forward,</i>	\$5,200 00	\$10,250 00

<i>Amounts brought forward,</i>	\$5,200 00	\$10,250 00
Benjamin F. Otis, City Auditor,	1,500 00	
Isaac Hagar, Chairman Assessors,	1,200 00	
Samuel M. Jackson, Assessor,	700 00	
Howard B. Coffin,               “	700 00	
Hosea Hyde, Clerk of Common Council,	300 00	
Orrin Whipple, Assistant Assessor,	32 00	
Joseph Walker,               “               “	80 00	
O. F. Lucas,               “               “	40 00	
Benjamin Bourne,               “               “	52 00	
S. A. Woodward,               “               “	60 00	
George Warren,               “               “	82 00	
John Warner,               “               “	48 00	
Joseph D. Wellington, Sealer of Weights and Measures,	75 00	
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Total, as per item No. 34 of expenses,		\$10,069 00
		<hr/>
Balance, unexpended, transferred into Treasury,		\$181 00

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**STATE AID.**

Appropriation,		\$1,400 00
J. V. Ramsdell,	\$120 00	
Anna C. Boyd,	80 00	
Ann Duvall,	72 00	
W. Watson,	72 00	
Thomas Kehoe,	72 00	
S. C. Spaulding,	72 00	
Thomas Dinnean,	72 00	
Isaac Munroe,	60 00	
E. Burke,	56 00	
N. D. Tibbetts,	55 00	
Ann Mullen,	50 00	
T. Dolan,	48 00	
C. Gunnison,	48 00	
	<hr/>	<hr/>
<i>Amounts carried forward,</i>	\$877 00	\$1,400 00

<i>Amounts brought forward,</i>	\$877 00	\$1,400 00
Eliza M. Jackson,	48 00	
B. Madden,	48 00	
L. T. Sanger,	48 00	
M. Hagerty,	48 00	
Mary Walsh,	48 00	
Mary A. B. Pratt,	48 00	
E. H. Belcher,	40 00	
Mary Duran,	36 00	
S. Fell,	32 00	
T. McMahon,	18 00	
Agnes Myers,	16 00	
E. P. Pratt,	16 00	

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Total, as per item No. 35 of expenses,	\$1,323 00
Balance, unexpended, transferred into Treasury,	\$77 00

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#### SINKING FUND, CITY DEBT.

Appropriation,	\$12,250 00
Amount paid Commissioners of Sinking Fund, as per item No. 36 of expenses,	\$12,250 00

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#### SINKING FUND, WATER BONDS.

Appropriation,	\$12,750 00
Amount paid Commissioners of Sinking Fund, as per item No. 37 of expenses,	\$12,750 00

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#### EDUCATIONAL DEPARTMENT.

General Appropriation for Schools,	\$71,000 00
Received from Dog Tax,	\$811 33
Transferred from Appropriation for School Incidentals,	383 79
<i>Amounts carried forward,</i>	\$1,195 12
	\$71,000 00

<i>Amounts brought forward,</i>	\$1,195 12	\$71,000 00
Transferred from Appropriation for		
Industrial Drawing,	214 80	

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\$1,409 92

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\$72,409 92

#### Expenditures in Detail.

Ephraim Hunt, Superintendent,	\$2,700 00
Isaac Hagar, Sec. School Board,	300 00
	<hr/>
	\$3,000 00

#### High School.

Francis A. Waterhouse, Master,	\$2,700 00
Ezra W. Sampson, Sub-Master,	1,850 00
John F. Kent, Assistant,	1,200 00
Thos. Bond Lindsay, "	750 00
S. Warren Davis, "	337 50
S. Alice Worcester, "	1,100 00
Caroline Spear, "	1,100 00
Louise A. Dehnison, "	687 50
M. Isabel Hanson, "	687 50
M. Abby Smith, "	337 50
Mattie E. Foote, "	337 50
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	\$14,087 50

#### Music.

William S. Tilden, Instructor,	\$937 50
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#### Drawing.

Emma F. Bowler, Instructress,	\$425 00
A. Hun Berry, Instructor,	625 00

#### Military Drill.

R. G. Carter, Instructor,	\$400 00
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#### Calisthenics.

Jennie E. Ireson, Instructress,	\$110 00
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*Amounts carried forward,*      \$16,585 00      \$72,409 92

*Amounts brought forward,*                      \$16,585 00    \$72,409 92

**District No. 1.**

Albert L. Harwood, Master,	\$2,000 00
Mary L. Searle, Head-Assistant,	750 00
Mary E. Minter,            "            "	843 75
Martha L. Perkins,        "            "	750 00
Lilla M. Means,            "            "	281 25
Cevilla R. Richardson,    "            "	693 75
Agnes S. Carleton,        "            "	468 75
Helen A. Davis,            "            "	431 25
Emma M. Lunt, Assistant,	375 00
Maria F. Wood,            "            "	600 00
Clara A. Curtis,            "            "	375 00
Maud McWilliams,        "            "	600 00
Lottie P. Harbach,        "            "	600 00
Ellena H. Thompson,      "            "	600 00
Ellen M. Cook,            "            "	600 00
M. Marion Miller,        "            "	600 00
Emma Taylor,            "            "	375 00
M. Ella Hildreth,        "            "	375 00
Ella F. Crooker,          "            "	600 00
Mary P. Fanning,        "            "	600 00
Alotta E. Stearns,        "            "	600 00
Hannah Taft,            "            "	225 00
Kate Taylor,            "            "	225 00
Emma J. Henshaw,        "            "	225 00
Helen Norwood,          "            "	225 00
Mary Tenney,            "            "	165 00

**District No. 2.**

Luther E. Leland, Master,	\$2,000 00
Ellen M. Leland, Head-Assistant,	750 00
Elizabeth A. Pinnock,    "            "	750 00
Anna G. Swain, Assistant,	600 00
Carrie L. Kimball,        "            "	600 00

*Amounts carried forward,*                      \$35,468 75    \$72,409 92

<i>Amounts brought forward,</i>	\$35,468 75	\$72,409 92
Phebe W. Bunker, Assistant,	600 00	
Susan E. Copeland, “	600 00	
Ann B. Smith, “	600 00	
Ella F. Brown, “	537 50	

**District No. 3.**

Levi F. Warren, Master,	\$2,000 00	
Sarah A. Warren, Head-Assistant,	750 00	
Ella G. Bates, “ “	750 00	
Emma J. Thompson, “ “	600 00	
M. Abby Smith, “ “	468 75	
Alice Pitts, “ “	750 00	
Jennie L. Morehouse, “ “	255 00	
Mary J. Pickering, Assistant,	600 00	
Eliza E. Simmons, “	600 00	
Calista S. Wood, “	600 00	
Sarah E. Foster, “	600 00	
Lucy E. Davis, “	600 00	
Susan P. Richmond, “	600 00	
Mary E. Tufts, “	568 75	
Elizabeth F. Paddock, “	547 50	
Abby J. Warner, “	568 75	
Estella M. Haynes, “	600 00	
Lydia A. Brierly, “	600 00	
Mary R. Ware, “	600 00	
Lizzie Flint, “	600 00	
Lilla T. Wilder, “	525 00	
Clara H. Snow, “	90 00	
Lilla S. Taylor, “	56 25	
Esther E. Berry, “	18 75	

**District No. 4.**

H. Chapin Sawin, Master,	\$2,000 00	
Clara C. Prince, Head-Assistant,	750 00	
John C. Lyeth, “ “	750 00	

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<i>Amounts carried forward,</i>	\$55,255 00	\$72,409 92
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<i>Amounts brought forward,</i>	\$55,255 00	\$72,409 92
Eudora Sanford, Assistant,	600 00	
Martha M. Bakeman, Assistant,	600 00	
S. Louise Shelton, “	600 00	
Josephine H. Waters, “	568 75	
Mary H. Dwyer, “	600 00	
Anna F. Gage, “	568 75	
Emma M. Cleary, “	600 00	
Annie L. Wood, “	600 00	
Josephine W. Littlefield, “	600 00	
Alotta C. Wilmarth, “	600 00	
Ellen F. Dalrymple, “	568 75	
H. Augusta Millard, “	600 00	
Louise W. Stearns, “	600 00	
Ella M. Hotchkiss, “	600 00	
Jeannette A. Grant, “	600 00	

**Janitors.**

John Cummings,	\$650 00	
John McCamman,	626 00	
Thomas Woodman,	540 00	
Thomas Johnson,	425 00	
William Welch,	266 64	
Joshua L. Randall,	255 25	
Martin Welch,	200 95	
Bridget Cox,	200 00	
James H. Boit,	180 00	
Enoch Houston,	140 00	
Jeremiah McNamara,	133 36	
H. F. Sanderson,	96 00	
John Mohr,	96 00	
Alfred B. Hooker,	74 05	
William H. Smith,	50 00	

**Fuel.**

Albert Brackett, coal and wood,	\$4,197 47	
James Nickelson, “ “ “	117 95	

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Total, as per item No. 38 of expenses, \$72,409 92



## SCHOOL INCIDENTALS AND REPAIRS.

Appropriation,	\$9,500 00	
Transferred to General Appropriation for Schools,	383 79	
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	\$9,116 21	
Knight, Adams, & Co., books, station- ery, etc.,	\$2,497 59	
Simpson Bros., concreting,	684 27	
Milo Lucas, outside windows and sun- dry repairs,	431 28	
Thayer & Stiles, furnace-work, etc.,	411 10	
Rand, Avery, & Co., printing reports, etc.,	406 80	
Water Department, use of water,	346 67	
W. Eugene Thayer, one Brackett piano,	291 00	
Charles E. Small, repairs on roofs, etc.,	229 95	
A. J. Fiske & Co., furnace-work, etc.,	206 70	
New England School Furniture Co., furniture, etc.,	197 95	
C. S. Phillips, painting school-house, etc.,	184 56	
Peabody & Whitney, supplies,	180 34	
N. & W. Gas Light Co., gas,	168 70	
N. W. Tewksbury, books,	139 55	
J. W. Conroy, painting school-house, etc.,	129 96	
H. M. Stimson, printing,	128 50	
A. G. Whitcomb, furniture, etc.,	124 40	
Melvil Dewey, Sec., 8 sets metric weights and measures,	112 50	
Henry McElwin, blackboards,	103 60	
O. B. Leavitt, furnace-work, etc.,	100 85	
E. A. Smallwood, window shades, etc.,	87 50	
J. H. Daniels, diplomas, graduating class,	86 60	
James Claffy, cleaning vaults, etc.,	76 00	
J. A. Doran, sundry repairs, etc.,	69 70	
Collin Cady, " " "	69 63	
	<hr/>	
<i>Amounts carried forward,</i>	\$7,465 70	\$9,116 21

<i>Amounts brought forward,</i>	\$7,465 70	\$9,116 21
Ward & Gay, electric pen, press, etc.,	65 00	
B. Bradley & Co., clocks, etc.,	64 00	
George E. Bridges, taking census of children from 5 to 15,	60 00	
F. H. Hunting, expressage,	59 20	
Isaac Smith, sundry repairs,	58 15	
John S. Sumner, furnace-work, etc.,	57 40	
Eureka Ventilating Co., ventilators,	57 00	
Noah Prescott, stone steps and capping,	54 36	
John H. Pray, Sons, & Co., matting,	53 02	
Benjamin Fewkes, sundry repairs,	53 01	
Charles Scott, " "	51 38	
E. B. Bowen, balance of rent of Thompsonville school-house,	50 00	
A. B. Crane, sundry repairs,	45 75	
W. H. French & Co., repairs on water fixtures,	44 38	
J. C. Farrar, sundry repairs,	44 20	
H. F. Wellington, sundry repairs,	42 47	
David Clapp & Son, printing,	40 33	
W. S. Cushman, sundry repairs,	40 25	
J. W. Garland, " "	39 59	
Bridgman & Peabody, supplies,	34 94	
J. H. Potter, printing,	31 88	
J. A. Swasey, portable black-boards,	35 08	
Amidon & Washburn, printing,	30 00	
William Reed & Son, fitting bayonets,	30 00	
D. F. McAllister, sundry repairs,	29 53	
E. W. Sampson, sundry cash expenses,	27 39	
Charles O. Davis, services as truant- officer,	25 00	
Frank E. Tucker, services as truant- officer,	25 00	
Greenwood & Co., supplies,	21 25	
J. E. Trowbridge, furnace-work, etc.,	21 13	
<i>Amounts carried forward,</i>	<hr/> \$8,756 39	<hr/> \$9,116 21

<i>Amounts brought forward,</i>	\$8,756 39	\$9,116 21
Isaac Hagar, sundry cash expenses,	18 28	
Allen Jordan, sundry repairs,	16 95	
Cranitch & Horrigan, resetting glass,	16 05	
W. S. Tilden, sheet music,	15 00	
Christopher Needham, material and labor,	15 00	
George W. Choate, repairing clocks,	13 35	
Walworth Manuf. Co., supplies,	13 31	
Sam'l D. Garey, material and labor,	12 51	
George T. Weston, " " "	12 40	
M. Taffe, " " "	12 00	
Chas. H. Jennison, expressage,	11 15	
A. L. Harwood, sundry cash expenses,	11 09	
A. J. Macomber, repairing clocks,	11 00	
Sundry small bills,	181 73	
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Total, as per item No. 39 of expenses,		\$9,116 21

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#### USE OF HYDRANTS.

Appropriation,		\$5,000 00
Water Department,	\$5,000 00	.
Total, as per item No. 41 of expenses,		\$5,000 00

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#### WATER CONSTRUCTION.

Total expenditure to Dec. 31, 1877,		\$771,426 88
Pay-rolls of laborers,	\$6,712 29	
Warren Foundry & Machine Co., iron pipe,	6,212 42	
Union Water Meter Co., meters, etc.,	2,914 05	
Benjamin Fewkes, building fence, etc.,	880 71	
Davis & Farnum Manuf. Co., castings, etc.,	769 72	
Boston & Albany Railroad, freight,	745 21	
<hr/>		
<i>Amounts carried forward,</i>	\$18,234 40	\$771,426 88

<i>Amounts brought forward,</i>	\$18,234 40	\$771,426 88
Walworth Manuf. Co., supplies,	713 54	
H. N. Hyde, Jr., services as Assistant Superintendent,	657 00	
James S. Newell & Co., hydrants, etc.,	506 70	
T. Albert Ward, damage to land,	400 00	
Gillis, Morrison, & Co., service-pipe, etc.,	347 15	
Chadwick Lead Works, lead,	306 78	
J. A. Caldwell, hose, etc.,	250 28	
James E. Cahill, labor, men, and teams,	202 87	
J. D. Billings, moving pipe-shop, etc.,	200 75	
Shedd & Sawyer, services Mr. Sawyer, etc.,	200 00	
Otis Pettee & Co., material and labor,	191 47	
Boston Machine Co., " " "	176 53	
T. Stuart, carting pipe, etc.,	158 89	
Moses G. Crane, Agt., constructing telegraph,	145 00	
M. Hewitt, blacksmithing,	119 02	
Geo. A. Goodyear & Co., powder and fuse,	101 40	
C. S. Knowles, supplies,	100 42	
S. D. Whittemore, rent of land,	87 50	
Morris, Tasker, & Co., service-pipe,	55 71	
H. R. Worthington, meters, etc.,	51 35	
George W. Keyes, material and labor,	47 97	
Waltham Water Works, supplies,	41 94	
Charles A. Cole, blacksmithing,	39 60	
Thomas Belger, "	37 35	
J. McDonald, "	27 31	
R. H. Hodgson, "	14 62	
Andrew Peters, "	11 63	
P. Keegan, "	4 30	
A. Danforth & Co., "	2 75	
Pattee & Perkins, hydrant,	38 41	
W. G. Bosworth, expressage,	27 65	
<i>Amounts carried forward,</i>	\$23,500 29	\$771,426 88

<i>Amounts brought forward,</i>	\$23,500 29	\$771,426 88
Adams Express Co., expressage,	2 35	
McIntosh Express,       “	2 00	
Town of Brookline, Sewer Department,		
frames, etc.,	17 38	
W. H. French & Co., material and labor,	16 35	
Samuel D. Garey,       “   “   “	14 63	
J. E. Trowbridge,       “   “   “	10 65	
Boston Lead Co., lead,	11 77	
A. K. Lissberger, solder,	8 50	
Jos. Hewes & Son, sinks,	7 95	
Ames Plow Co., wheels,	6 00	
Orrin Whipple, material and labor,	4 42	
L. F. Lawrence & Co., blocks,	4 00	
Michael Healy, powder,	3 75	
Patrick Linnehan, stone,	3 00	
G. H. Williams, replacing turf,	2 50	
Timothy Shyne, charcoal,	2 40	
R. Freeman, mortar,	2 00	
C. F. Eddy & Co., cement,	1 60	
S. F. Cate, carriage-hire,	1 50	
D. Harrington & Son, carriage-hire,	1 50	
J. O. Evans & Son, setting glass,	1 50	
Moses Clark, Jr., cash for labor,	1 25	
C. H. Stacy, postal cards,	1 00	
<hr/>		
Total, as per item No. 42 of expenses,	\$23,628 29	

**Received.**

For service-pipes laid,	\$3,217 15	
“   meters sold,	2,366 90	
“   old materials sold,	27 43	
“   freight refunded by		
B. & A. Railroad,	296 83	
<hr/>		
Total, as per item No. 28 of receipts,	5,908 31	
<hr/>		17,719 98
<hr/>		
Total expenditure to Dec. 31, 1878,		\$789,146 86

## WATER MAINTENANCE.

Appropriation,		\$10,000 00
Moses Clark, Jr., services as registrar,	\$1,200 00	
“ “ “ sundry office expenses,	35 33	
W. I. Parker, services as clerk,	400 00	
“ “ cash expenses,	1 04	
F. G. Richardson, services as Supt.,	400 00	
“ “ use of horse and carriage, 102 days,	204 00	
F. G. Richardson, board of city horse,	56 50	
“ “ sundry cash expenses,	3 46	
George L. Whitney, services as Supt.,	1,062 50	
“ “ board of city horse,	108 41	
“ “ sundry cash expenses,	42 37	
Thomas Coughlan, services as engineer,	1,080 00	
J. W. Kent, “ watchman and fireman,	540 00	
Pay roll of laborers,	632 45	
James Nickelson, coal and wood,	2,248 17	
J. W. Pearson, coal,	20 40	
Sch. Nettie Langdon & Co., freight on coal,	526 20	
Leonard & Ellis, oil, etc.,	86 00	
Speare, Gregory, & Co., oil, etc.,	63 92	
Amidon & Washburn, books and printing,	54 00	
H. M. Stimson, printing, etc.,	35 50	
J. H. Potter, “ “	28 00	
E. H. Trulan & Co., blank books	34 75	
Leach, Annable, & Co., sofa-bed, etc.,	52 25	
Lang & Jacobs, oil cabinet,	36 00	
James McDonald, blacksmithing,	33 75	
M. Hewitt, “	32 53	
R. H. Hodgson, “	26 38	
P. Keegan, “	11 60	
A. Danforth & Co., “	8 30	
<i>Amounts carried forward,</i>	<u>\$9,063 81</u>	<u>\$10,000 00</u>

<i>Amounts brought forward,</i>	\$9,063 81	\$10,000 00
A. Peters, blacksmithing,	3 22	
J. C. Farrar,                   “	3 17	
J. A. Caldwell & Co., hose, etc.,	52 75	
A. W. Mitchell & Co., badges,	22 50	
S. F. Cate, carriage-hire,	13 00	
Richard Adams, labor,	44 63	
Michael Welch,           “	31 88	
James Hodgson, services as Inspector,	45 00	
Charles Mace,           “       at pumping station,	25 00	
J. G. Thompson, services,	16 00	
H. R. Worthington, packing,	25 00	
John Gilbert, lumber,	32 97	
Revere Copper Co., copper,	45 92	
James E. Cahill, labor, men, and teams,	22 50	
T. Stuart,                   “       “       “	15 00	
American Steam Gauge Co., steam-gauge,	15 00	
Hooper, Lewis, & Co., supplies,	56 56	
C. H. Stacy,                   “	40 59	
L. F. Lawrence & Co.,       “	28 00	
C. S. Knowles,               “	26 80	
A. B. Tainter,               “	17 37	
G. Wadleigh,               “	17 15	
Foundry Supply Co.,       “	15 50	
Howes & Brown,           “	12 55	
George F. Whiting & Co., “	9 08	
W. G. Fellows,              “	8 88	
Boston Machine Co.,       “	7 50	
J. G. Roberts & Co., binding,	7 50	
N. & W. Gas Light Co., gas,	7 80	
Royal Gilky, lumber and coal,	7 35	
Newton Mills, cotton waste,	9 79	
Walworth Manuf. Co., wrench, etc.,	7 55	
Henry C. Dimond, stamp,	7 00	
D. Harrington & Son, carriage-hire,	7 00	

<i>Amounts carried forward,</i>	<u>\$9,771 32</u>	<u>\$10,000 00</u>
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<i>Amounts brought forward,</i>	\$9,771 32	\$10,000 00
F. E. Wallingford, carriage-hire,	6 00	
Alfred Howes, grass-seed,	5 27	
Cambridgeport Diary Co., book,	4 87	
G. Fuller & Son, lumber,	4 35	
H. C. Sherburne, trustee, labor on steam-pipes,	3 90	
Quincy Harrington, grinding lawn- mowers,	3 00	
Timothy Shyne, charcoal,	2 40	
F. B. Sisson, use of pung,	2 25	
Otis Pettie & Co., material and labor,	37 39	
J. D. Billings, " "	36 39	
J. Langtry, " "	15 85	
Cranitch & Horrigan, " "	14 87	
O. B. Leavitt, " "	11 08	
Orrin Whipple, " "	8 80	
Charles Scott, " "	7 37	
Collin Cady, " "	2 81	
T. F. Glennan, " "	2 50	
Jones Express, expressage,	5 90	
C. H. Jennison, " "	4 30	
Eaton's Express, " "	1 40	
Gillis, Morrison, & Co., supplies,	6 04	
J. L. Fairbanks & Co., " "	4 50	
H. A. Sherman, " "	4 50	
Thayer & Stiles, " "	2 50	
M. R. Warren, " "	1 68	
C. Strout & Sons, " "	1 60	
May, Nash, & Winslow, " "	1 50	
R. Freeman, " "	1 00	
E. Smead & Co. " "	90	
L. L. Bates & Co., " "	60	
B. Billings, " "	45	
H. W. Fanning & Son, " "	40	

Total, as per item No. 43 of expenses,	<u>\$9,977 69</u>
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Balance unexpended, transferred into Treasury,	<u>\$22 31</u>
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## LEDGER BALANCES.

Cash,	\$77,275 60	
Kenrick Fund,		\$1,050 00
Suspense Account,		326 11
Taxes, 1871,	607 36	
Taxes, 1872,	600 66	
Taxes, 1873,	1,341 11	
Taxes, 1874,	2,520 26	
Taxes, 1875,	3,586 63	
Taxes, 1876,	4,445 55	
Taxes, 1877,	3,862 47	
Taxes, 1878,	60,039 98	
Trusted Accounts,		13 97
City of Newton,		385,853 32
Funded Debt Water Scrip,		790,000 00
Funded Debt Permanent Loan,		353,000 00
Funded Debt City Bonds,		34,000 00
Overlay and Abatement,		2,615 18
Public Property owned by the City,	735,825 00	
Mayor's Warrants unpaid,		31,561 41
Temporary Loans,		80,000 00
Water construction,	788,314 77	
	<hr/>	<hr/>
	\$1,678,419 99	\$1,678,419 99

## STATEMENT OF THE KENRICK FUND.

The following is a statement of this Fund and its Income, January 1, 1879 :—

Amount invested,	\$3,000 00
Cash uninvested,	1,000 00
	<hr/>
Total fund,	\$4,000 00

Income received in 1878,	\$230 00
Amount distributed,	180 00
	<hr/>
Balance,	\$50 00

The distribution of the income of this Fund has been made in accordance with the terms of the donor, to persons entitled to its benefits.

REPORT OF CITY CLERK.



## REPORT OF CITY CLERK.

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CITY OF NEWTON, CITY CLERK'S OFFICE,  
CITY HALL, March 1, 1879.

B. F. OTIS, Esq., *City Auditor*: —

SIR, — I have the honor to submit herewith for publication in your report the Annual Report of the Births, Marriages, and Deaths occurring in this city during the year 1878. They are comprised in several tables, which have been carefully prepared, and exhibit statistics more fully than has heretofore been customary.

During the year 1878 a record was made of the facts, required by law, concerning 375 births, 115 marriages, and 264 deaths. The aggregate of this registry is 754, an excess of two over the total for the previous year.

Further comparison with the vital statistics of 1877 shows that in that year the registered number of births was larger by 34; the number of registered marriages was smaller by 9; the registered number of deaths smaller by 27.

The natural increase of population, or excess of births over deaths, was 111, a number less by 60 than the natural increase (172) in 1877.

The rate of births, marriages, and deaths, of Newton parties, in 1878, are as follows: —

Births,	20.92	+	to	1,000	of	estimated	population.
Marriages,	8.95	+	to	“	“	“	“
Deaths,	15.26	+	to	“	“	“	“











The excess of birth-rate over the death-rate is 5.66 per thousand, or .566 per cent.

One living child was born to every 48 of the population; one person in every 112 at all ages was married, and one person in every 66 died.

The number of still births registered was 13.

#### Marriages.

The whole number of marriages registered in 1877 was 109. In 1878 the number was 115.

The registration of marriages is never complete, from the fact that no returns are made, in many cases, by persons solemnizing marriages for which certificates were obtained.

The marriage rate in 1878, the number of marriages of citizens of Newton to every thousand of the estimated population, was 8.95, that is to say, of the 17,300 of the people of all ages, 155 were married in 1878.

#### Deaths.

Consumption holds, as heretofore, the first place as a destroyer of human life, its victims numbering 14 more in 1878 than in the previous year. Cholera infantum stands next in rank, 12 more having died from this cause the past year than during 1877. Diphtheria and scarlet fever and kindred infectious diseases made but slight impression on the mortality of our city.

The number of males who died during the year exceeds the number of females by 30.

TABLE I. — *Births, Marriages, and Deaths, 1878.*

General abstract exhibiting the Births, Marriages, and Deaths registered in the City of Newton for the year ending December 31, 1878; distinguishing the sex and the parentage of children born, the nativity of persons married, and the sex and aggregate and average ages of the number who died.

Estimated Population of 1878.	BIRTHS.								
	Whole Number.	Sex.			Parentage.				
		M.	F.	U.	Am.	For.	Am. Fa. and For. Mo.	For. Fa. and Am. Mo.	Unk.
17,300	375	202	172	1	167	153	27	26	2

## MARRIAGES.

Couples.	Nativity.			
	American.	Foreign.	Am. Male and For. Female.	For. Male and Am. Female.
115	78	21	8	8

## DEATHS.

Persons.	Sex.			No. whose ages are registered.	Ages in years.	
	Male.	Female.	Unk.		Aggregate.	Average.
264	146	114	2	250	8,292	33.01+

TABLE II. — *Births, 1878.*

Distinguishing by months and by sex the registered number of children born alive during the year.

Sex.	MONTHS.												Total.
	Jan.	Feb.	March.	April.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.	
Male . . . .	14	12	18	22	15	16	18	20	5	24	16	16	196
Female . . .	10	16	18	10	12	16	5	13	16	19	12	19	166
Totals . . .	24	28	36	32	27	32	23	33	21	43	28	35	362

TABLE III.

Distinguishing by months and by sex the registered number of still-births during the year.

Sex.	MONTHS.												Total.
	Jan.	Feb.	March.	April.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.	
Male . . . .	..	4	..	..	..	..	..	1	..	..	1	..	6
Female . . .	..	1	1	..	..	..	3	..	..	..	..	1	6
Unknown . .	..	..	..	..	..	..	..	..	..	1	..	..	1
Totals . . .		5	1				3	1		1	1	1	13

TABLE IV. — *Marriages.*

Distinguishing by months, the number of marriages during the year.

Couples.	MONTHS.												Total.
	Jan.	Feb.	March.	April.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.	
115	10	8	10	8	7	14	7	6	10	12	14	9	115

TABLE V. — *Marriages.*

Exhibiting the social condition and ages, respectively, of all parties married during the year ending December 31, 1878.

*Aggregate of all conditions.*

	All ages.	Under 20.	20 to 25.	25 to 30.	30 to 35.	35 to 40.	40 to 45.	45 to 50.	50 to 55.	55 to 60.	60 to 65.	Unknown.
All ages . . . . .	230	13	116	61	20	6	6	4	1	1	1	1
Males . . . . .	115	1	53	32	15	4	4	2	1	1	1	..
Females . . . . .	115	12	63	29	5	2	2	1	..	..	..	1

**A.** *First marriage of both parties.*

All ages . . . . .	210	13	114	60	14	2	3	3	..	..	..	1
Males . . . . .	105	1	53	32	13	1	2	3	..	..	..	..
Females . . . . .	105	12	61	28	1	1	1	..	..	..	..	1

**B.** *Subsequent marriage of male, but first of female.*

All ages . . . . .	16	..	..	..	..	..	..	..	..	..	..	..
Males . . . . .	8	..	..	..	2	2	2	..	1	1	..	..
Females . . . . .	8	..	2	1	4	1	..	..	..	..	..	..

**C.** *Subsequent marriage of both parties.*

All ages . . . . .	4	..	..	..	..	..	..	..	..	..	..	..
Males . . . . .	2	..	..	..	..	1	..	..	..	..	1	..
Females . . . . .	2	..	..	..	..	..	1	1	..	..	..	..

TABLE VI. — *Deaths.*

Distinguishing by months and sex the registered number of persons who died during the year.

Year.	MONTHS.												Totals.
264													
Sex.	Jan.	Feb.	March.	April.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.	
Male . . . .	11	10	5	14	7	12	26	24	12	9	8	8	146
Female . . .	9	7	6	5	9	8	11	13	10	12	7	19	116
Not stated . .	..	..	..	..	..	..	2	..	..	..	..	..	2
Totals . . .	20	17	11	19	16	20	39	37	22	21	15	27	264

TABLE VII. — Deaths.

The following Table shows the Number of Deaths from several Specified Causes of each Sex, in each Month, which were Registered in the City of Newton for the Year ending Dec. 31, 1878.

[illegible]

Percentage of Mortality, 1.524.

Respectfully submitted,

EDWIN O. CHILDS, *City Clerk.*

*Table Showing the Number of Polls, Real and Personal Estate of the City, Amount of Tax, Rate per Cent. Appropriations, etc., for Seventeen Years.*

A.D.	Polls.	Real Estate.	Personal.	Total.	City, State, and County Tax.	Rate.	Appropriations.	Houses.
1861.	2,056	\$5,644,285 00	\$1,955,835 00	\$7,600,120 00	\$57,804 88	\$7 20	\$47,500 00	1,330
1862.	1,989	5,476,805 00	2,495,821 00	7,922,620 00	56,599 17	6 60	35,000 00	1,374
1863.	1,911	5,504,367 00	2,988,195 00	8,492,562 00	64,968 65	7 20	40,000 00	1,399
1864.	2,046	5,637,755 00	2,309,021 00	7,946,776 00	78,000 55	9 50	52,500 00	1,421
1865.	2,118	5,756,185 00	3,390,075 00	9,146,260 00	113,991 12	12 00	60,000 00	1,438
1866.	2,297	6,394,835 00	4,560,724 00	10,955,559 00	114,149 59	10 00	75,000 00	1,491
1867.	2,438	7,227,285 00	4,995,127 00	12,222,412 00	153,990 88	12 20	95,000 00	1,552
1868.	2,736	9,104,567 00	5,366,602 00	14,441,169 00	193,208 88	13 00	160,000 00	1,671
1869.	2,937	10,288,610 00	5,634,266 00	15,922,876 00	188,990 46	11 50	150,000 00	1,826
1870.	3,055	11,407,070 00	6,330,922 00	17,737,992 00	222,514 71	12 20	185,000 00	2,077
1871.	3,199	12,770,420 00	6,615,593 00	19,386,013 00	223,521 32	11 20	185,000 00	2,220
1872.	3,420	15,792,950 00	8,463,904 00	24,256,854 00	334,314 87	13 50	291,050 00	2,392
1873.	3,659	18,446,275 00	7,537,775 00	25,984,050 00	384,089 84	14 50	333,300 00	2,523
1874.	3,917	20,032,800 00	8,048,645 00	28,081,445 00	372,893 53	13 00	320,000 00	2,657
1875.	4,089	21,073,495 00	7,882,374 00	28,955,869 00	399,085 46	13 50	351,000 00	2,876
1876.	4,334	21,128,120 00	7,072,845 00	28,200,965 00	392,201 13	13 60	350,004 99	3,004
1877.	4,045	20,907,025 00	6,627,488 00	26,634,513 00	370,319 38	13 60	327,645 13	3,057
1878.	3,882	18,604,105 00	6,408,825 00	25,012,930 00	352,942 43	13 80	319,225 00	3,150

TABLE

*Showing amount paid for support of Poor out of Almshouse from 1851 to 1878, inclusive:—*

1851	.	.	\$138 56	1865	.	.	\$870 77
1852	.	.	104 94	1866	.	.	643 72
1853	.	.	45 70	1867	.	.	1,268 08
1854	.	.	38 10	1868	.	.	1,464 53
1855	.	.	73 63	1869	.	.	2,019 28
1856	.	.	135 49	1870	.	.	2,197 41
1857	.	.	204 96	1871	.	.	3,713 39
1858	.	.	387 61	1872	.	.	2,884 79
1859	.	.	358 25	1873	.	.	3,066 59
1860	.	.	500 81	1874	.	.	3,895 51
1861	.	.	757 14	1875	.	.	5,553 79
1862	.	.	781 50	1876	.	.	9,336 14
1863	.	.	632 27	1877	.	.	10,259 57
1864	.	.	605 02	1878	.	.	8,284 10

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**SALARIES OF CITY OFFICERS, 1878.**

Mayor,	\$1,000 00
City Clerk,	1,800 00
City Treasurer and Collector,	2,000 00
Assistant for Treasurer and Collector,	1,200 00
City Auditor,	1,500 00
City Solicitor,	1,000 00
Chairman of Assessors,	1,200 00
Two Assessors, each,	700 00
Assistant Assessors, each per day,	4 00
City Messenger,	800 00
Clerk of Common Council,	300 00
Sealer of Weights and Measures,	75 00



**HIGHWAY DEPARTMENT.**

Superintendent of Streets, two horses and carriage furnished,	\$1,400 00
Four Assistant Superintendents, each per day,	2 75
City Engineer,	1,300 00

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**FIRE DEPARTMENT.**

Chief Engineer, team furnished,	\$1,500 00
Assistant Engineer,	300 00
Clerk of Board,	100 00
Three Engineers of Steamers, each,	900 00
Four Drivers of Steamers and Hook and Ladder Co., each,	700 00
Eight Foremen of Steamers and Hook and Ladder and Hose Co., each,	80 00
Eight Assistant Foremen and Clerks of steamers, and Hook and Ladder, and Hose Co., each,	65 00
Fifty-eight hosemen and ladder men, each,	60 00

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**POLICE DEPARTMENT.**

City Marshal, team furnished,	\$1,200 00
Sergeant of Police, horse furnished,	1,000 00
Thirteen policemen, each,	900 00

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**POOR DEPARTMENT.**

Seven Overseers of Poor, each,	\$50 00
City Almoner and Clerk of Board,	600 00
Warden of Almshouse,	500 00

**WATER DEPARTMENT.**

Water Registrar,	\$1,200 00
Superintendent of Water Works,	1,500 00
Engineer at Pumping Station,	1,080 00
Fireman and Watchman, Pumping Station,	540 00

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**SCHOOLS.**

Superintendent,	\$2,700 00
One teacher,	2,700 00
Four teachers, at \$2,000,	8,000 00
One teacher,	1,850 00
One teacher,	800 00
One teacher,	1,200 00
Two teachers, \$1,100,	2,200 00
Four teachers, \$900,	3,600 00
Thirteen teachers, \$750,	9,750 00
Forty-nine teachers, \$600,	29,400 00
One teacher,	550 00
One teacher,	500 00
Two teachers, \$400,	800 00
Secretary of School Committee,	300 00

**Janitors.**

One Janitor,	\$650 00
“ “	626 00
“ “	540 00
“ “	425 00
“ “	400 00
“ “	300 00
“ “	275 00
“ “	200 00
“ “	180 00
“ “	120 00
Two Janitors, at \$96,	192 00

**Library.**

Librarian,	\$800 00
Assistant Librarian,	500 00
Two assistants, for service, one shilling per hour.	

**SCHEDULE OF CITY PROPERTY, REAL AND PERSONAL.****Almshouse Department.**

40 acres of land,	\$10,000 00	
Buildings,	5,000 00	
Personal property,	3,000 00	
	<u>          </u>	\$18,000 00

**City Hall Department.**

City Hall, furniture and fixtures,	\$40,000 00	
City seal,	25 00	
City stamps,	35 00	
Reports, statutes, and special laws,	300 00	
Set standard weights and measures,	100 00	
Record books,	200 00	
Book-cases, maps, etc.,	100 00	
	<u>          </u>	\$40,760 00

**Cemetery Department.**

Land in Newton Cemetery,	\$2,000 00	
Tomb      "      "	800 00	
	<u>          </u>	\$2,800 00

**City Engineering Department.**

One transit, No. 1,	\$140 00	
One level,	120 00	
One transit, No. 2,	200 00	
	<u>          </u>	
<i>Amounts carried forward,</i>	\$460 00	\$61,560 00

<i>Amounts brought forward,</i>	\$460 00	\$61,560 00
One level,	120 00	
Draughting materials,	136 00	
Surveying       “	48 00	
Tools,	12 00	
Stationery,     “	55 00	
Sundries,	25 00	
	<hr/>	\$856 00

#### Fire Department.

Steam Fire Engine House, No. 1 Engine, and apparatus, furniture, lock-up, dwelling-house, stable and land,	\$25,000 00	
Steam Fire Engine House, No. 2 En- gine, apparatus, land, etc.,	25,000 00	
Steam Fire Engine House, No. 3 En- gine, and apparatus, furniture, stable, lock-up, land, etc.,	28,000 00	
Hook and Ladder House, stable, land, etc., No. 2,	18,000 00	
Hook and Ladder Carriage, etc., Newtonville,	800 00	
Hose Carriage, hose, etc., Newtonville,	1,500 00	
Engine House, land, etc.,       “	3,500 00	
Hose Carriage House, stable, etc., Auburndale,	5,000 00	
Hose Carriage, hose, etc., Auburndale,	800 00	
Hose Carriage House, stable, etc., Lower Falls,	7,000 00	
Hose Carriage, hose, etc., Lower Falls,	1,800 00	
Fire Engine House, engine, land, etc., Upper Falls,	2,000 00	
Fire Engine House, land, etc., Newton Centre,	4,000 00	
Hose, apparatus, hooks, ladders, etc.,	1,000 00	
Reservoirs for fire purposes,	2,000 00	
	<hr/>	
<i>Amounts carried forward,</i>	\$125,400 00	\$62,416 00

<i>Amounts brought forward,</i>	\$125,400 00	\$62,416 00
Fire Alarm Telegraph, including team,		
etc.,	16,000 00	
	<hr/>	141,400 00

#### Free Library Department.

Newton Free Library, building and		
land,	\$42,000 00	
Books,	10,000 00	
	<hr/>	\$52,000 00

#### Gravel and Gravel lands.

Land on Pearl Street,	Ward 1,	\$2,000 00	
" " Jewett Street,	" "	2,500 00	
" " Dalby Street,	" "	1,400 00	
" " Dalby Street,	" "	500 00	
" " Crafts Street,	Ward 2,	500 00	
" " Cook Street,	" "	200 00	
" " Watertown Street,	" "	1,000 00	
" in North Village,	" "	600 00	
" " North Village,	" "	300 00	
" " North Village,	" "	500 00	
" on Pine Street,	Ward 3,	250 00	
" " Pine Street,	" "	550 00	
" in Ward 4,		400 00	
Gravel on Washington St.,	Ward 4,	1,000 00	
" " " " " "	" "	1,400 00	
" " Grove Street,	" "	150 00	
" " Elliot Street,	Ward 5,	500 00	
" " Parker Street,	" "	250 00	
Land on Willow and Centre Streets,			
Ward 6,		1,000 00	
Land on Centre and Station Streets,			
Ward 6,		3,000 00	
Land on Beacon Street, Ward 6,		200 00	
		<hr/>	\$18,200 00
<i>Amount carried forward,</i>			<hr/>
			\$274,016 00

*Amount brought forward,* \$274,016 00

#### Highway Department.

21 cart horses, \$225,	\$4,725 00	
17 horses used by Fire Dept., \$225,	3,825 00	
1 horse for Supt. of Streets,	125 00	
1 horse for Engineer,	200 00	
25 double and single carts,	2,500 00	
43 harnesses,	850 00	
4 double sleds, \$200,	800 00	
2 stone-crushers and houses,	5,000 00	
2 stone wagons, express wagon, carriage and sleigh,	390 00	
Tools, chains, derricks, blankets, etc.,	1,680 00	
	<hr/>	\$20,095 00

#### Lighting Department.

For 1,085 posts, lanterns, burners, etc., \$10,	\$10,850 00
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#### Police Department.

Station-house, building and land, No. Village,	\$4,000 00	
Furniture and bedding,	50 00	
Furniture and bedding, Ward 1,	50 00	
“ “ Ward 6,	75 00	
Horse, wagon, and harness,	350 00	
Horse, saddle, and bridle,	125 00	
14 pairs handcuffs, \$3 75	52 50	
12 clubs,	2 00	24 00
3 lanterns,	4 00	12 00
14 badges,	2 50	35 00
13 parade clubs and belts,	3 60	45 50
Blankets,		20 00
Record books,		25 00
	<hr/>	\$4,864 00

*Amount carried forward,* \$309,825 00

*Amount brought forward,*

\$309,825 00

**School Department.**

High School bl'd'gs, furniture and land,	\$57,000 00	
Mason School-House, “ “	48,000 00	
Hyde “ “	22,000 00	
Prospect “ “	30,000 00	
Prospect “ No. 2. “	6,000 00	
Oak Hill “ “	12,000 00	
Hamilton “ “	28,000 00	
Williams “ “	27,000 00	
Pierce “ “	32,000 00	
Davis “ “	13,000 00	
Franklin “ “	15,000 00	
Claffin “ “	31,500 00	
Adams “ “	22,000 00	
Bigelow “ “	34,000 00	
Underwood “ “	24,000 00	
Lincoln “ “	5,500 00	
Jackson “ “	14,000 00	
School apparatus,	5,000 00	
	<hr/>	\$426,000 00
		<hr/>
		\$735,825 00





ANNUAL REPORT  
OF  
BOARD OF OVERSEERS.



## ANNUAL REPORT OF BOARD OF OVERSEERS.

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*To His Honor the Mayor and City Council of  
Newton: —*

The close of another financial year makes it the duty of the Overseers of the Poor to render a report of the condition of that department of the public service which has been committed to their charge, together with the receipts and expenditures of the same, for the year ending Dec. 31, 1878.

In addition to the statement of money received and expended, it seems proper that we should give to your honorable body a report of the general condition of the poor of our city, with such facts and information as we may deem expedient.

The subject is always one of general interest, for we have the "poor with us always;" but the methods of administering to the wants of those claiming relief at the public charge, require the largest discretion on the part of those upon whom this duty rests; otherwise, by a profuse and loose expenditure of the city's bounty, there is great danger of adding largely to the class who depend upon the public to supply their wants, and thereby adding largely to the burdens of the tax-payers, and worse still, encouraging a large class of the community to rely upon others, rather than themselves for support.

While the aid furnished by private charity is received with gratitude, that which comes from the city treasury is too often *demande*d as a right, or claimed as a just return for the payment of few poll-taxes, and pressed with ceaseless importunity.

In dealing with pauperism, great care need be exercised lest the evil be increased. There are few things for which it is more mischievous for people to rely on the aid of others, than the means of subsistence, and there is no lesson which they learn more readily.

Charity is a *duty*, and one of the best traits of our common humanity is to visit the sick and destitute poor, and relieve their wants, and our city has a large number of those, who, in private life, are earning for themselves the commendation of the Master, — "Inasmuch as ye have done it unto one of the least of these, ye have done it unto me."

It would be well if in our city private benevolence were supplanted by systematic, organized charity.

We stand almost alone among the larger municipalities of this Commonwealth in being without any regular, well-organized Charitable Aid Society.

Such an organization, with branches in each of the wards of the city, with visitors willing to give their time to the service of the needy and deserving poor, and minister to their necessities by their advice, sympathy, and material aid, acting in coöperation with the Overseers, would be of invaluable assistance to the Board, and prevent many of the

more respectable and worthy poor from becoming public paupers.

Such an organization, bringing such a personal service, which is the highest form of giving, would be of inestimable value to the poor, and bring the doers into active sympathy with him of whom it is said, "He went about doing good."

The past year, as a whole, has not been an eventful one ; we have followed the same plan that was pursued the year previous, and the result thus far seems to fully justify the system then adopted.

Our agent, the City Almoner, has, under our direction, given his time to the examination of all cases of application for relief, investigating the legal settlements of all new applicants, and making progress in determining the settlements of those, who for years have been receiving aid from this city, without having their claims fully investigated and determined.

In many cases it has resulted in shifting the burden of their support upon other cities and towns, or upon the State, and considerable progress has been made in placing the investigations in a permanent form for the use of any future officers of the city.

In prosecuting this work, the attention of our Almoner was called to many unsettled bills against the Commonwealth, under the law for the "Relief of Sick State Poor."

The files of bills in the care of our City Auditor, dating back to 1868, were all examined, and bills to the amount of about eight hundred dollars were

found; these were made out and sent to the special agent of this department at the State House, but the amount recovered on them was only about two hundred dollars. We fail to see the justice in allowing any officer of the State thus arbitrarily to cut down to one-fourth of the amount bills for which the city have vouchers for every dollar.

Late in the year 1877 our attention was called by His Honor ex-Mayor Speare to the fact that the city had claims, under the "Infectious Disease Act," against some parties (it was uncertain who they were) for money expended in 1872 under the town government, and the agent of the Board was instructed to take charge of the matter, although belonging properly to the Board of Health. After much labor and time spent in investigation, he was enabled to trace and identify every one of the persons who were aided under that law, and to prove their settlements, as follows, viz.: One was found to belong to this city, one to the City of Boston, two to the town of Melrose, and one to the State at large; and the Board have thus been able to recover \$75.00 from Melrose, \$500.00 from Boston, and \$350.00 from the State.

These sums were much less than the town expended at the time, but quite as much, perhaps, as we could expect after the lapse of six years.

The money expended by the Overseers of the Poor is derived from the appropriations of the City Council alone; there is not in Newton, as in many of the cities and towns of the State, any income from charitable bequests or trust funds to supple-

ment the means thus provided, and our Board is obliged to use this appropriation in accordance with the statutes and ordinances of the city, however much we may desire to exceed the limits thus allowed.

#### RELIEF OF POOR OUT OF ALMSHOUSE.

The whole number of families who have received aid during the year is 183, comprising 749 persons; of these, 113 families, consisting of 449 persons, have legal pauper settlement in Newton; 20 families, of 68 persons, have a legal settlement in other cities and towns, and have been aided here, in accordance with instructions of the Overseers where they belonged, and 50 families, of 232 persons, were State paupers or have no known settlement. The number supported by this city at asylums for the insane the past year was 8. Seven families have, at their own request, been removed to distant States and Ireland, at the expense of this city and State, thus relieving by so many the overstocked labor market of this city. Seven State paupers have been removed to Tewksbury, after having been aided in this city to a greater or less extent.

The amount appropriated for relief of destitute poor for the year ending Dec. 31, 1878, was \$10,000.00.

## EXPENDITURES.

Amount cash payments,	\$305 00
“ paid for fuel,	952 73
“ “ groceries,	2,431 72
“ “ medical attendance,	482 01
“ “ medicine,	73 35
“ “ clothing,	17 66
“ “ transportation,	179 25
“ “ insane in hospitals,	1,393 96
“ “ burials,	192 00
“ “ State Reform’ry Inst.,	21 75
“ “ other cities and towns for aid to Newton poor,	784 98
“ “ books, stationery, postage, etc.,	99 10
“ “ salary of Clerk and Overseers, 1877,	500 00
“ “ salary of Almoner, 1878,	600 00
“ “ support of tramps,	149 64
Miscellaneous expenses, board, etc.,	101 00
	<hr/>
Total,	\$8,284 10

There has been received from the State, and other cities and towns, for aid rendered their poor residing in Newton, as follows, viz.: —

Commonwealth of Massachusetts,	\$983 70
City of Boston,	769 97
Other cities and towns,	485 20
Miscellaneous,	12 75
	<hr/>
Total,	\$2,251 62

which, deducted from amount expended, leaves the net cost of poor out of almshouse for the year ending Dec. 31, 1878, \$6,032.48.















## ALMSHOUSE AND FARM DEPARTMENT.

At the meeting of the Board held in March, it was ascertained that the warden, Mr. Levi Moody, had declined a reelection to the position for another year, as he was to return to the position he filled in Lynn previous to coming to Newton. Under these circumstances the Board instructed the Committee on Almshouse to secure another man to fill the place. They recommended Mr. N. D. Moody, of Wellesley, for the position, and he was unanimously elected as warden, with his wife as matron, at a salary of \$500.00.

The Board feel that they have reason to be satisfied with the choice they made, as Mr. Moody has proved a very efficient manager on the farm, and his wife a very capable and prudent house-keeper, and kind and motherly in looking after the best interests of the inmates, and they both, in the position they occupy, have endeavored to promote the best interests of the city, and the city is to be congratulated in having secured their services.

## SUMMARY.

Appropriations for Almshouse,		\$3,500 00
Total expenditures,		<u>\$3,330 69</u>
Rec'd for sale of produce on farm,	\$748 82	
Rec'd for board of Miss Pierce,	<u>104 00</u>	
		852 82
Net expenditures for carrying on the Institution,		<u>\$2,477 87</u>

The whole number of inmates for the year is 37;

average for the year 24 5-6, making cost of support per capita \$192 per week. There have been two deaths at the Almshouse during the year, and two youths have been sent away, one to his relatives, and the other West, under the auspices of the Children's Aid Society, at expense of this city.

Before closing their report the Board wish to acknowledge the obligations they are under to the Committee on Highways and Superintendent of Highways and Water Works, for the interest manifested by them, and the aid afforded in giving employment to the poor of the city, thereby reducing the number of those who have called for aid from the Overseers, and saving from pauperism many of the industrious poor. In conclusion, the Board of Overseers of the Poor would congratulate the citizens of Newton on their success in reducing the expenses of this department during the year.

Respectfully submitted in behalf of Overseers of the Poor.

JOHN WARNER,  
*Clerk.*



# REPORT OF CITY MARSHAL.



## REPORT OF CITY MARSHAL.

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OFFICE OF CITY MARSHAL,  
WEST NEWTON, Dec. 31, 1878.

*To His Honor the Mayor and the City Council  
of Newton:—*

GENTLEMEN,— I have the honor to submit for your consideration my Fifth Annual Report, summarizing the services and showing the condition of the Police Department for the year ending December 31, 1878.

The present Police Force consists of fifteen men, organized as follows : A City Marshal, with headquarters at the City Hall; one mounted Sergeant stationed at Newton Centre, whose duty is to patrol the city at night; one day officer on duty at Newton Village; one day officer on duty at the City Hall, and eleven night patrolmen. This is an increase of one over the force of the previous year, it having been found necessary to have an officer on duty at head-quarters both day and night, and for this purpose one man has been added.

The compensation of the Force and the contingent expenses of the Department for the year, have amounted to \$14,954.34. During the same period there has been paid into the City Treasury for fees of officers, \$680.55, thus making the net cost of the

Department for the year ending December 31, 1878, \$14,273.79.

Of the several police quarters, it is proper to say that stations One, Two, and Four are in excellent condition, both sanitary and otherwise. To the condition of Station Three at the City Hall, I regret the necessity which again compels me to invoke attention. The need of material improvements at this station is more pressing than ever.

Its defects and necessities may be briefly indicated. It is altogether inadequate in size, its sanitary appointments are notably deficient, and as a place of even temporary detention, it is quite insecure as is sufficiently attested by the fact that two prisoners have recently easily forced their way out and escaped.

The following is a synopsis of the general work of the Department for the year ending December 31, 1878:—

#### General Statistics.

No. of Arrests,	339	No. of Search Warrants	
“ Males,	308	“ served,	6
“ Females,	21	“ Truants taken to	
“ Americans,	69	“ School,	47
“ Foreigners,	266	“ Provided with	
“ Minors,	91	“ Lodging,	1,680
“ Commitments,	38		
Lost property restored to owners,		\$1,477	

#### Nativity of Prisoners.

United States,	69	Germany,	7
British Provinces,	4	Scotland,	5
Ireland,	232	Italy,	1
England,	16	Negro,	4
France,	1		

## Nature of Crime.

Aiding a prisoner to escape,	1	Fraud,	1
Assault and battery,	53	Fornication,	1
“    felonious,	1	Forgery,	2
Attempt to murder,	1	Incendiary,	3
Breaking glass,	3	Indecent exposure,	3
Breaking street lights,	2	Libel,	3
Breaking and entering,	5	Larceny, simple,	41
Bastardy,	3	“    felonious,	3
Common drunkards,	6	Malicious mischief,	17
Capias,	3	Murder,	1
Contempt of court,	2	Stubborn children,	2
Cruelty to dumb animals,	5	Suspicious persons,	6
Disturbing public schools,	5	Threatening bodily harm,	3
Disorderly	80	Truants,	4
Disturbing the peace	52	Violation of City Ordinance,	10
Drunkenness,	80	“    Liquor law,	6
Embezzlement,	1	“    Dog law,	2
Evading car fare,	2	Vagabonds,	5
Escaped convicts	1		

## Miscellaneous Duties.

A very noticeable increase may be seen in the numerous tax-bills and notices distributed by the Police the past year, as also the numerous other duties which they are called upon to execute, many of which require much time and patience, as shown by the following statement :—

Accidents where assistance		Defective streets,	17
was rendered,	12	“    sidewalk,	23
Buildings found open		“    water pipes	18
and secured,	156	Disturbances suppressed,	114
Dangerous buildings re-		Dogs killed,	26
ported,	3	Defective gas-pipes re-	
Dead bodies taken in charge,	4	ported,	4
Defective lamps,	145	Fire alarms given,	10

Fires extinguished without alarm,	6	Lights hung in dangerous places,	17
Horses killed,	9	Nuisances reported,	47
Insane,	5	Notices served,	7,300
Injured persons assisted,	21	Stray teams put up,	18
Intoxicated persons assisted home,	128	Street obstructions removed,	43
Lost children restored to friends,	12	Stray cattle taken in charge,	7

#### Tramps in 1878.

The subject presented in this caption suggests its usual difficult problem. In their social relations the issues involved in its solution possess grave interest and importance, but their discussion is not a matter within the scope of the report.

Although the number of tramps lodged and cared for at our police stations has been less during the past year, yet it is still large and troublesome. In some respects, however, there has appeared a noticeable change in those latterly seeking our benefactions. With few exceptions, they have been young or middle-aged men. And a very much larger proportion than ever before have exhibited better character, antecedents, and more intelligence than their predecessors. Largely unlike the hordes who have crowded upon us in previous years, those of 1878 have seemed more generally familiar with recent industrial occupations, and have manifested unusual readiness and desire to labor if opportunity offered; possibly this fact may be accepted as an indication that large numbers of men deprived of employment under the prevailing depression of business, have been forced

upon the road, and consequently, to the acceptance of this mode of public relief. If so, the tramp problem becomes of far more serious importance than heretofore.

**Conclusion.**

The multiplicity of duties obligated to, or expected from, this Department has been in nowise diminished. While any particular enumeration of details is here unnecessary, it is quite proper to attest the uniform care and fidelity of the Force in the discharge of police surveillance and duty.

As Health Commissioner, the City Marshal has had a difficult and laborious experience; but has endeavored to enforce in all proper ways the sanitary regulations required by law and ordinance.

In conclusion, he has only to express his sincere thanks for the courteous consideration received from the Department under his charge, and from all associated with the municipal administration of the city.

Very respectfully submitted,

R. L. HINDS,  
*City Marshal.*

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ANNUAL REPORT  
OF THE  
SCHOOL COMMITTEE  
OF THE  
CITY OF NEWTON.

1879.

No. XL.



BOSTON:  
FRANKLIN PRESS: RAND, AVERY, & COMPANY.  
1880.



# ORGANIZATION OF THE SCHOOL COMMITTEE.

January, 1879.

HON. WILLIAM B. FOWLE, MAYOR, CHAIRMAN, *ex officio*.

JOHN Q. HENRY, PRESIDENT COMMON COUNCIL, *ex officio*.

REV. AMOS E. LAWRENCE, CHAIRMAN.

ISAAC HAGAR, SECRETARY.

EPHRAIM HUNT, LL.D., SUPERINTENDENT.

<i>Elective Members.</i>		<i>Present Term of Office.</i>
THOMAS S. SAMSON, <sup>1</sup>	Ward One,	Expires January, 1880.
HENRY E. COBB, <sup>1</sup>	" "	" " 1880.
HENRY O. MARTIN,	" Two,	" " 1880.
HORATIO S. NOYES,	" "	" " 1880.
JULIUS L. CLARKE,	" Three,	" " 1882.
ELIJAH W. WOOD,	" "	" " 1882.
WILLIAM S. SMITH,	" Four,	" " 1882.
ISAAC HAGAR,	" "	" " 1882.
JOHN A. GOULD,	" Five,	" " 1881.
CHARLES E. ABBOTT,	" "	" " 1881.
JAMES S. NEWELL,	" Six,	" " 1881.
AMOS E. LAWRENCE,	" "	" " 1881.
GEORGE W. SHINN,	" Seven,	" " 1881.
LINCOLN R. STONE,	" "	" " 1882.

## DISTRICT COMMITTEES.

### NEWTON-CENTRE DISTRICT.

JAMES S. NEWELL, Newton Centre.

JOHN A. GOULD, Newton Upper Falls.

AMOS E. LAWRENCE, Newton Centre.

CHARLES E. ABBOTT, Newton Highlands.

GEORGE W. SHINN, Newton.

### UPPER-FALLS DISTRICT.

JOHN A. GOULD, Newton Upper Falls.

JAMES S. NEWELL, Newton Centre.

CHARLES E. ABBOTT, Newton Highlands.

AMOS E. LAWRENCE, Newton Centre.

ISAAC HAGAR, Newton Lower Falls.

### LOWER-FALLS DISTRICT.

WILLIAM S. SMITH, Auburndale.

ELIJAH W. WOOD, West Newton.

ISAAC HAGAR, Newton Lower Falls.

### WEST-NEWTON DISTRICT.

JULIUS L. CLARKE, West Newton.

ELIJAH W. WOOD, West Newton.

HORATIO S. NOYES, Newtonville.

WILLIAM S. SMITH, Auburndale.

HENRY O. MARTIN, Newtonville.

<sup>1</sup> Elected in joint convention of city council and school committee.

## NEWTONVILLE DISTRICT.

HORATIO S. NOYES, Newtonville.                      LINCOLN R. STONE, Newton.  
 HENRY O. MARTIN, Newtonville.                      THOMAS S. SAMSON, Newton.  
    HENRY E. COBB, Newton.

## NEWTON DISTRICT.

LINCOLN R. STONE, Newton.                      GEORGE W. SHINN, Newton.  
 HENRY E. COBB, Newton.                      JOHN Q. HENRY, Newton.  
                                  THOMAS S. SAMSON, Newton.

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## STANDING COMMITTEES OF THE BOARD.

*High School.* — Amos E. Lawrence, Thomas S. Samson, Horatio S. Noyes, Julius L. Clarke,  
 William S. Smith, John A. Gould, George W. Shinn, Mayor, *ex officio*.  
*Rules and Regulations.* — George W. Shinn, Henry E. Cobb, Charles E. Abbott.  
*Accounts and Printing.* — Isaac Hagar, Elijah W. Wood, Julius L. Clarke.  
*Schoolhouses.* — Isaac Hagar, John A. Gould, Lincoln R. Stone.  
*Salaries.* — James S. Newell, John Q. Henry, Henry O. Martin.  
*Text-Books.* — Amos E. Lawrence, William S. Smith, Julius L. Clarke.  
*Music.* — Amos E. Lawrence, Lincoln R. Stone, Elijah W. Wood.  
*Drawing and Writing.* — Horatio S. Noyes, John Q. Henry, Thomas S. Samson.  
*Industrial Drawing.* — James S. Newell, Charles E. Abbott, Henry O. Martin.  
*Evening Schools.* — George W. Shinn, Lincoln R. Stone, Henry E. Cobb.

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## ORGANIZATION OF THE SCHOOL COMMITTEE.

January, 1880.

HON. ROYAL M. PULSIFER, MAYOR, CHAIRMAN, *ex officio*.  
 CHARLES C. BARTON, PRESIDENT COMMON COUNCIL, *ex officio*.  
 REV. AMOS E. LAWRENCE, CHAIRMAN.  
 ISAAC HAGAR, SECRETARY.  
 EPHRAIM HUNT, LL.D., SUPERINTENDENT.

<i>Elective Members.</i>		<i>Present Term of Office.</i>
THOMAS S. SAMSON,	Ward One,	Expires January, 1883.
THOMAS MARCY,	“ “	“ “ 1883.
E. FRANK HOWE,	“ Two,	“ “ 1883.
A. AMELIA SMEAD,	“ “	“ “ 1883.
JULIUS L. CLARKE,	“ Three,	“ “ 1882.
ELIJAH W. WOOD,	“ “	“ “ 1882.
WILLIAM S. SMITH,	“ Four,	“ “ 1882.
ISAAC HAGAR,	“ “	“ “ 1882.
JOHN A. GOULD,	“ Five,	“ “ 1881.
CHARLES E. ABBOTT,	“ “	“ “ 1881.
JAMES S. NEWELL,	“ Six,	“ “ 1881.
AMOS E. LAWRENCE,	“ “	“ “ 1881.
GEORGE W. SHINN,	“ Seven,	“ “ 1881.
LINCOLN R. STONE,	“ “	“ “ 1882.

## DISTRICT COMMITTEES.

### NEWTON-CENTRE DISTRICT.

JAMES S. NEWELL, Newton Centre.      JOHN A. GOULD, Newton Upper Falls.  
AMOS E. LAWRENCE, Newton Centre.      CHARLES E. ABBOTT, Newton Highlands.  
CHARLES C. BARTON, Newton Centre.

### UPPER-FALLS DISTRICT.

JOHN A. GOULD, Newton Upper Falls.      JAMES S. NEWELL, Newton Centre.  
CHARLES E. ABBOTT, Newton Highlands.      AMOS E. LAWRENCE, Newton Centre.  
ISAAC HAGAR, Newton Lower Falls.

### LOWER-FALLS DISTRICT.

WILLIAM S. SMITH, Auburndale.      ELIJAH W. WOOD, West Newton.  
ISAAC HAGAR, Newton Lower Falls.

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JULIUS L. CLARKE, West Newton.      ELIJAH W. WOOD, West Newton.  
E. FRANK HOWE, Newtonville.      WILLIAM S. SMITH, Auburndale.  
A. AMELIA SMEAD, Newtonville.

### NEWTONVILLE DISTRICT.

E. FRANK HOWE, Newtonville.      LINCOLN R. STONE, Newton.  
A. AMELIA SMEAD, Newtonville.      THOMAS S. SAMSON, Newton.  
THOMAS MARCY, Newton.

### NEWTON DISTRICT.

LINCOLN R. STONE, Newton.      GEORGE W. SHINN, Newton.  
THOMAS MARCY, Newton.      E. FRANK HOWE, Newton.  
THOMAS S. SAMSON, Newton.

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## STANDING COMMITTEES OF THE BOARD.

*High School.* — Amos E. Lawrence, Thomas S. Samson, E. Frank Howe, Elijah W. Wood, William S. Smith, John A. Gould, George W. Shinn, Mayor, *ex officio*.  
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*Music.* — Amos E. Lawrence, Lincoln R. Stone, A. Amelia Smead.  
*Drawing and Writing.* — Charles C. Barton, A. Amelia Smead, Thomas Marcy.  
*Industrial Drawing.* — James S. Newell, Charles E. Abbott, Elijah W. Wood.  
*Evening Schools.* — George W. Shinn, Lincoln R. Stone, Thomas Marcy.



## CITY OF NEWTON.

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IN BOARD OF SCHOOL COMMITTEE, Sept. 24, 1879.

The following-named gentlemen were appointed to prepare the Annual Report of the School Committee for the year 1879; viz., Amos E. Lawrence, Thomas S. Samson, Elijah W. Wood, Lincoln R. Stone, and Charles E. Abbott.

ISAAC HAGAR,  
*Secretary.*

IN BOARD OF SCHOOL COMMITTEE, Nov. 26, 1879.

The Annual Report was presented by Rev. Amos E. Lawrence, read and accepted, and twenty-eight hundred copies ordered to be printed.

ISAAC HAGAR,  
*Secretary.*





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## REPORT OF SCHOOL COMMITTEE.

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TO THE CITIZENS OF NEWTON. — In compliance with the requirements of the Statutes of the Commonwealth, the School Board of the city of Newton respectfully submit to their fellow-citizens their Fortieth Annual Report.

### PUBLIC INTEREST IN OUR SCHOOLS.

The lively interest taken by our citizens in their public schools is fully justified, not only by considerations of personal advantage to those who have children to be taught, but especially by the intimate connection of the schools with the public welfare. In a government by the people wide-spread ignorance is wide-spread danger. Bigotry, superstition, class prejudice, and narrow-minded indifference to the general welfare, attain their rankest growth where ignorance reigns, and find their legitimate cure and preventive in the universal intelligence. If the people are to make the laws, and administer the government, every thing will be imperilled by leaving them untaught. Here is at once the explanation and the sufficient defence of our public-school system. The government guards its own life, — seeks its own perpetuity. Society protects itself.

## EXPENDITURES.

The accompanying report of the Secretary of the Board will show, that, of the \$82,864.30 available for school-purposes the past year, there has been expended the sum of \$82,260.08, leaving a balance of \$604.22, and showing a decrease of \$948 55 from the amount expended last year. This result is the more gratifying because it has been secured notwithstanding important additions to the corps of teachers which the Board have felt called upon to make during the year.

The expenditure for schools, exclusive of school-buildings, during the last six years, have been as follows :—

Expenditure for 1874	.	.	.	\$97,353 65
Expenditure for 1875	.	.	.	96,649 23
Expenditure for 1876	.	.	.	86,533 64
Expenditure for 1877	.	.	.	83,917 89
Expenditure for 1878	.	.	.	83,208 63
Expenditure for 1879	.	.	.	82,260 08

showing a reduction of \$15,093.57 as compared with 1874.

This, it will be admitted, is a very large reduction, especially when it is considered that the number of our pupils has meantime increased more than thirty per cent,—from 2,446 in 1874 to 3,397 in 1879. The reduction, however, would be no cause for congratulation if the result had been a degrading of our schools; if, in proportion as the expenses have diminished, the character of the teachers employed and the quality of the instruction furnished have depreciated. But this has not been true. It has never been the aim of the Board to see how cheaply the schools can be administered, but rather how well. In their judgment they have not been seriously injured; and their conviction is, that, as a

whole, they were never in better condition than they are at present. In one department only does the policy of curtailment seem to have wrought decided harm ; and to this we shall briefly refer hereafter.

#### ADDITIONAL MASTERS.

Allusion has already been made to important changes during the year in our corps of teachers. In the year 1872 our schools were under the care of eight head masters. This number was felt to be larger than was warranted by the finances of the town, and was very much larger, in proportion to the number of pupils to be taught, than in any other of the cities or towns of the Commonwealth. Accordingly, in September of the following year, they were reduced from eight to four. But the working of the new system was never wholly satisfactory, and from the first was sharply criticised by the districts affected, notably by Newtonville, Auburn-dale, and the Upper Falls. These districts felt that unjust discriminations were made against them, and in favor of other parts of the city no more deserving than they. The friends of such schools as had been deprived of their masters did not cease to urge their claims for the same advantages as were accorded to others, especially as they saw their claim strengthened from year to year by the steadily increasing number of their pupils.

The Board, therefore, decided, early in the year now under review, so far to retrace their steps as to limit the masters once more each to a single school, and to increase the number again from four to eight, except that one of the eight is, for the present, to have the title of principal instead of head master.

The publication of this purpose of the Committee

brought them numerous applications, from gentlemen of culture and experience, for the places to be filled; and the only embarrassment of the Board, but a grave one, was in making from so many excellent names a selection. The result was the choice of Mr. George L. Chandler for the school at Auburndale, Mr. Walter C. Frost for the Upper Falls, Mr. William A. Spinney for Newtonville, and Mr. George G. Edwards for the North Village. These are all gentlemen of thorough training, graduates of our best schools and colleges, and have all made proof of their capacity by years of success in teaching. We confidently hope to see in them here the same energy and skill they have shown elsewhere, and to find among their other qualifications for their office that union of caution with audacity that makes the progressive teacher, — the blending of a wise conservatism with a fearless questioning of existing methods that is not the less wise because it is inquiring and aggressive.

The Committee are happy to report that these changes have involved no increase of our annual expenses. The addition of the four masters made practicable the withdrawal of several subordinate assistants; and the saving thus effected, augmented by a small reduction in other salaries, has enabled the Committee to make this important addition to our teaching force without increasing the salary-account of last year.

#### SALARIES.

But, gratifying as this result is, we must add, that if the Committee are to guard, as heretofore, the best interests of our schools, and if the citizens of Newton demand of us that we do not imperil the honorable reputation the city has so laboriously won, we cannot



hold out the hope of further curtailment in our expenditures. We have repeatedly reduced the salaries of our teachers, till it is believed they have now reached the lowest point consistent with justice or safety. An incompetent pretender is dear at any price; and competent teachers must be competently paid, or they are lost to us. "Thou shalt not muzzle the ox that treadeth out the corn" is an injunction as wise as it is old; and certainly there is no true economy in starving the horse that draws the plough. The best interests of all concerned require that this question of salaries should be held as settled.

#### MUSIC.

There is another path on which we have reached, if we have not already passed, the limit of a wise economy. Two years ago the Board decided, though not without much misgiving, to dispense with the services of a special teacher of music; and Mr. W. S. Tilden, who had so long and honorably held that position, withdrew from our service. As a result Mr. Tilden's salary has for two years been saved to the treasury; but we are compelled to report that the music has declined. It is still taught in all our schools, and we require of all our teachers that they be able to sing, and to take charge of the daily musical practice. But our experience has shown and emphasized the need of a competent specialist to supervise the labors of the teachers, and impart that life and enthusiasm by which alone any thoroughly satisfactory work can be done.

#### OUR GRADED SYSTEM.

It is the fault of whatever system, when pressed to an extreme, that it interferes with healthful freedom

of action, and becomes repressive rather than helpful. This has proved true of our system of class grading. The acute and eager have been held back by the sluggish and the incompetent; the lazy fret and hinder the workers, and the *system* keeps them together. And yet we cannot give it up. It has too many advantages, and we have nothing to substitute in its place. We can modify it, however; and experience points out the way. Let there be allowed to the teacher and to the qualified supervisors of education a degree of discretion in the matter, let there be introduced into the administration of the system a measure of elasticity and freedom, and the evil and danger will disappear.

Without further discussion here, we commend, as worthy of particular attention, the observations on this subject in the accompanying report of the superintendent of schools, under the head of "Instruction and Promotion."

#### METHODS OF INSTRUCTION.

It is not our purpose in this report to discuss modes of instruction, or to claim that those adopted in the schools of Newton are the only good ones, or even that they are certainly the best ones. It is, however, true of them that they are not lifeless, are not dead forms; and mere routine work is not acceptable work. Our teachers are chosen and put in their places, not for their cart-horse quality,—their ability to draw a load of given weight over a beaten path in the regulation way,—but for their intelligence, wakefulness, and independence of thought and action. Teaching is recognized as a science,—one in which there are experts, indeed, and authorities to be respected as guides, but where











each one of the guild has responsibilities of his own. The mind has its laws of growth; and it is the privilege of every earnest teacher to study those laws, and the best way of working under them in the nascent minds before him. The philosophy of instruction has long had its earnest students, and has its acknowledged leaders; but it surely will not be claimed that the field has been so thoroughly explored that the end is reached, and nothing more remains but to follow in the beaten track. Inquiry and experiment, where they are earnest and conscientious, should still be welcomed; and the teacher should be encouraged to devise for herself the best ways of waking and guiding the minds in her charge. The outcome of this will inevitably be, in the primary grades especially, that life, freshness, and variety that will banish the traditional tedium of the class-room, and make school a pleasure. Another result, as naturally springing from this as light from the rising of the sun, will be the easy victory, by a wholly unconscious effort, over what were to *our* childhood the frightful bugbears of reading, spelling, writing, and number.

#### PRIMARY GRADES.

We have not far to go for an illustration of these general truths. The results gained the past year by our teachers of the primary grades, under the guidance of the superintendent, have been gratifying in the highest degree. Those who can recall their own child's experience in learning the alphabet, the dull monotony and listless drill of weary months, the thrill of joy when at last they had conquered the difference between b and d, p and q, 6 and 9, and were prepared to move

on to their "a-b-abs," could not fail to be gratified at the fruits of the first ten-weeks' training lately witnessed in our primary grades. The examination referred to extended to four of the primary classes in different quarters of the city, and was without any reference to the supposed superior excellence of the *material* of the classes. The average age of the children was a little above five years. They had had no previous training, were at the close of their tenth week of attendance, and had consequently been in the teacher's hands fifty school-days. Wishing to test the progress of these little ones, we carried with us a number of sentences printed *with the pen* on slips of paper, to be laid before the child, that he might first study them. There were twenty-four different sentences, involving the use of thirty-four different words, combined as variously as was consistent with the expression of a distinct thought. They were such as, "I see a bird in the tree," "Is the pig as big as the ox?" "The boy can spin a top," "Yes, I will run to you." The business-like and determined way in which each little head bent at once over the paper, and attacked the problem, was one of the most gratifying and suggestive things the visitors saw. It was as truly *study*, and independent study, as is the absorption of the collegian in the solution of his algebraic problem. For they were not allowed *to call the words* merely: they were expected to *read* them. They must know the sentences, therefore,—must comprehend the thought,—before they rose to read. They did know them; and, in less time than we have taken to narrate it, rose, and read them as easily and correctly as a professional elocutionist, with a naturalness of tone and cadence entirely faultless, because it *was* nature.

Further to test whether this was parrot-work, or whether *thought* was enlisted, we asked them if they could print for us something of their own on their slates. Hands were raised in assent, as many as there were little ones in the class, and three minutes later the slates were examined. One had printed, "I can see the pretty little kitty;" another, "I can see a little boy. Can he see me?" a third, "I can see a pretty little baby. Can the baby eat? Yes, the baby can eat." And each of them all had printed something conveying a thought. The letters of the several words were correctly and even gracefully formed. The right ones were in every case used; the capital letters, interrogation-point, period, and comma, were all right, and as they are given above. Their vocabulary was of course limited, and obviously no words would be used that they had not before learned and printed. But the point is, that they *had* learned them; for the combination was new, and the whole thing was evidently impromptu and alive. It should be added that this took place in each of the rooms visited, that our call was not expected, and that the teachers took no part in the examination. Here was certainly a noticeable achievement; for these are more than initial steps in all the difficult problems of reading, writing, and spelling, and was the fruit of fifty days' work.<sup>1</sup>

Similar results, and flowing from the same attempt to follow the natural laws of development of the child's mind, were found in the classes of the second year. Here the process of writing had, of course, been carried farther, and the children were using the script

<sup>1</sup> The only needed modification of this statement is, that a small per cent of the class were enrolled in the spring.

characters. This they did with correctness, and some of them with great beauty and ease. To test their independence, and to learn how far they could make use of their attainments in the expression of thought, and how far they were mere copyists and slavish imitators, they were required to write from memory four lines of a poem they had just been repeating in concert. This, it will be admitted, was a severe test for pupils who had been only one year under instruction. The lines were written, — time, four minutes, — not all with equal excellence, but with correctness of spelling, capital letters, and punctuation, and, in some instances, without a fault. And when, later<sup>2</sup> in our visit, they were required to write on their slates something of their own composition, the result was no less satisfactory than before.

In arithmetic, also, these children had made a degree of progress which will be very assuring to those who are in doubt whether children of so young an age can be expected to know any thing of number. Simple questions were answered by them, and even framed by them for their associates to answer, involving each of the fundamental rules of arithmetic; and while the words “addition,” “subtraction,” “multiplication,” and “division,” were unknown to them, all the *processes* were correctly performed. Something, also, of fractions they had learned, but this little by processes so natural that their ideas were evidently both clear and practical.

Here again we must refer to the superintendent's report for a statement of the principles through the application of which these results have been gained by our teachers.



## ADVANCED CLASS IN THE GRAMMAR-SCHOOLS.

The suggestion has been made by intelligent friends of education among us, that something is due to a considerable class of our pupils who cannot attend either of the High-school courses, or perhaps that school not at all, and who yet ask for something more than our grammar-grades as now limited are able to give. It is worthy of our consideration, whether, without any increase of our expenses whatever, there might not be added, for the benefit of such pupils, an advanced class, to be under the instruction of the master. For the instruction of such a class, our masters are all thoroughly competent; and it must be obvious at a glance that a *full course* of one additional year in the grammar-school could be more profitably administered than one-third or one-fourth of either course in the High School.

## PERMANENCY OF TEACHERS.

By the present usage of the Board, our teachers hold their office for a single year, and, if retained beyond that period, do so by renomination and annual re-appointment. It is a grave question whether the supposed advantages of such a system are not more than outweighed by its obvious evils. By denying to the teacher a sense of security in his position it leaves him exposed to a degree of nervous unrest as he approaches the time of annual re-appointment, from which, it would seem, one who has earned the confidence of the Board by years of successful labor ought to be exempt. The practice, besides, finds little encouragement in the usage of other branches of the public service, where the incumbent holds his position, not by annual appointment,

but during good behavior. The judges of our courts, and the public teachers of our holy religion, are not supposed to be the less efficient because they hold their position under this rule. The same remark applies to many other appointments of trust and emolument under our State and National Governments; while the entire civil service, as is well known of European Governments, is made efficient and stable by the force of this simple principle, since it may well be doubted whether a more powerful incentive can be devised than the consideration that the appointee holds his place so long, and only so long, as he proves himself competent and faithful, i.e., "during good behavior."

#### CONCLUSION.

On the whole, then, we congratulate our fellow-citizens on the results of the year. The Board, feeling the responsibility of their trust, have made it their steady aim so to guard and foster the schools as to leave them inferior to none in the Commonwealth. The superintendent and teachers have co-operated with them in this aim; while our pupils, also, have cheerfully welcomed their share of the labor necessary to maintain the good name of their native city.

The condition and progress of the several schools is reported below by the various committees assigned to the duty by the Board.

In behalf of the Committee.

AMOS E. LAWRENCE, *Chairman.*

NOVEMBER, 1879.

## HIGH SCHOOL.

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THE whole number of pupils in attendance on this school the last year was 282, 6 more than the previous year, and 21 more than the year before. Of these, 145 were girls, and 137 boys. Of the whole number, 61 were in the college course, 29 in the mercantile, 193 in the general, making 237 in the regular courses, and leaving 45 who have been special students, — one more than last year. The average daily attendance was 232.7, or 91.9 per cent of the whole. The classes contained the following numbers: I., 34 regular and 6 special; II., 43 regular and 12 special; III., 68 regular and 9 special; IV., 92 regular and 7 special; and 11 (post-graduates and others) not classed. The average age of the pupils was, of the first or highest class,  $17\frac{2}{3}$  years; of the second, 17; of the third,  $16\frac{1}{6}$ ; and of the fourth,  $15\frac{5}{12}$ . This average will be found almost identical with that reported for the same classes last year, the first and fourth classes differing by only one month of time, and the third by two. The second class averaged the same in both years.

### LAST GRADUATING CLASS.

Of the class who graduated in June last, thirty-one took the four-years' course, and the remaining thirteen

the three-years' course. Of these, five remain with us as post-graduates, deferring to another year, on account of their age, their entrance on college-life. Three are engaged in teaching, and are doing well. Eight have gone from us to higher schools and colleges, and one to the Normal School at Framingham. Three have entered at Harvard, two at Williams, and one each at Tufts, Smith, and Wellesley. In the examinations for matriculation at these several institutions our pupils acquitted themselves with credit, and well sustained the honorable reputation of our school and its teachers. If any of our citizens fear that their school is declining, these examinations for successive years ought to assure them that it is still worthy of their confidence. We have not done all we could wish, nor all we have aspired to do; but the records of the higher institutions to which our pupils have been sent will surely not accuse us of failure. Better results could unquestionably be gained, if the pupils of our school could be carefully selected, and the incompetent, the idle, and the mere diploma-hunter, could be sifted out from our classes. But the presence of such pupils is an evil not confined to the schools supported at the public expense. Private institutions are not exempt from them, and it surely would not be difficult to show that the doors even of our chartered academies and colleges are not effectually closed against the aimless and unworthy.

#### GRADUATING EXERCISES.

Similar evidence of the thorough work done in our school was given by the retiring class in their closing exercises on graduation-day. The large audience that filled the hall gave evidence of their interest by remain-

ing in their seats till the close of the protracted session. The essays were creditable to the several speakers, showing a degree of independence in thought, and extent of culture, that could only come of earnest labor, and that were quite inconsistent with the theory that the pupils had reached the end of a four-years' pastime. The elocution was not perfect, though it showed training and painstaking effort.

#### PRESENT SYSTEM OF INSTRUCTION, ALLEGED DEFECTS.

In the last report attention was called to a suggestion that a change in the curriculum of the High School was desirable; and, while it was stated that a change for the better would be promptly adopted by the Board, and welcomed by the teachers, it was pertinently remarked that the proposed change would be a return to the system abandoned by us a few years ago, and, as it was then supposed, for valid reasons.

Those reasons it was not the purpose of the report to give. It is desirable, however, that they should be given, so that it may be clearly seen whether they were mistakenly or justly regarded as valid, and, consequently, whether it is advisable to play an abandoned *rôle* over again, or to adhere to our present system.

Under the old system, there were two courses of study,—the college course and the general course. The studies of the college course were conformed, as for obvious reasons they must be, to the requirements of the colleges. The general course was designed, as it now is, for pupils who finish their school education at the High School. The studies of this course were virtually all required; that is, pupils were



required to take them all as a condition of graduation from the school. The college course answered its purpose reasonably well; but the general course proved defective, especially in the number and kind of studies. The number was too small for some pupils, and too large for others. Pupils that were able in body and mind could take more studies than were required; while pupils who were not very vigorous or clever were obliged, in order to do their work well, to take less.

In the kind of studies there was a similar want of adaptation. Studies that were well calculated for the training of one pupil were far from being always well calculated for the training of another; so that pupils either would pursue a study that was not adapted to their strength or capacity in a superficial or perfunctory sort of way, or would drop it altogether. As all the studies were required, whenever pupils dropped a study, they lost their right to graduate; and, in losing their right to graduate, they lost, naturally enough, much of their interest in their studies and in the school. Then they would drop other studies, and by and by they would drop themselves out of school. Bad examples are contagious. The spirit of "dropping" grew and multiplied, till classes found to their sorrow, when they reached the end of their course, that most of their members had dropped away. Not more than one in fifteen, sometimes not more than one in twenty, of those who entered the school at the beginning of the course, went through, and graduated.

For these reasons, the general course was revised, or, rather, an entirely new one was framed. As the evils of the old course grew out of its want of adaptation, the new one was made wider in its range of studies, and largely elective.

The superiority of the new course manifested itself in the more enthusiastic, and consequently more thorough work of pupils, and especially in the great proportional increase in the number of graduates. The number of a class when it graduated from the school, as compared with its number when it entered the school, was no longer as one to twenty, or as one to fifteen, but as one to five, and sometimes as one to three.

Later, another course was added,—the mercantile course. This course was designed to give pupils such general knowledge and training as would be serviceable to them in a business-life; and, if the number of pupils taking it be an indication of its utility, the course must be regarded as meeting a want in the community.

Under the present system, then, there are three courses,—the general course, the college course, and the mercantile course. In each of these courses certain studies are required, while others are elective. The elective studies predominate in the general course; the required studies, in the other courses. Moreover, pupils in one course are allowed, under certain restrictions, to elect studies from other courses. Both the mercantile course and the general course admit of improvement in certain particulars. The former especially would be bettered by diminishing the number of required studies. The college course, whether for better or for worse, must be conformed, as was previously said, to the requirements of the colleges.

Objections have been raised to the present system, certain of which it may be well to consider. It is supposed by some persons, that pupils have the exclusive right to elect their studies; and, as they are incompetent to do so, the elective feature of the system is pro-

nounced to be unwise. The answer to this is plain and decisive. Pupils have *not* the exclusive right to elect their studies. It is the duty of the parent or the teacher to guide or influence their choice. It is sometimes said that parents are not competent to aid their children in the election of studies. Admitting this to be true, they have the teachers to fall back upon. But the framers of the elective course did not admit this to be true. They believed that a large majority of parents sending children to our High School were intelligent enough to determine what and how much their children should study, — whether, for instance, they should take algebra instead of French, or twelve lessons a week instead of twenty.

It is sometimes even maintained that parents, though they know enough to choose studies for their children, should not be allowed to do so. They must take what is provided for them by the authorities, and ask no questions. No matter if an intelligent father objects to the initiation of his daughter into the mysteries of trigonometry; no matter if an intelligent mother is averse to German gutturals for her son, — trigonometry and German are prescribed, and must, therefore, be taken, or the children must be denied the privilege of the school. This is sufficiently autocratic. It may be the right system for some communities; but the School Board, when they introduced the elective feature, did not think it the right system for ours. They believed that with us, and in a school supported at the public expense, intelligent parents should be allowed a voice in determining the studies of their children, and contrived a plan to give that voice expression. But, even if pupils were to elect their studies, they could not go far astray.



In order to graduate from the school, pupils are required, under the present system, to take, as the minimum, twelve lessons a week throughout the course. Of these lessons, seven at least must be in prescribed studies: the remainder are in elective studies, any one of which could hardly fail to be of some advantage to the student, and could, whenever expedient, be easily changed for another.

Another objection is, that both teachers and pupils are distracted by the multiplicity of studies. A brief consideration of facts will show that this cannot be the case. The instruction in the school is largely departmental. The majority of our teachers have in charge but one or two branches each; the rest have a comparatively few branches each; and all have branches adapted to their several tastes and capacities. That, under this arrangement, teachers properly qualified for their position should be distracted by the multiplicity of studies passes understanding. The case with pupils is similar. Rarely, if ever, do pupils take so large a number of studies as to be distracted by them; and, even if this should happen, the distraction could easily be remedied by diminishing the number.

Another objection, for which there is still less ground, is, that the system makes superficial scholars. People glance at the wide range of studies, and, assuming that each pupil takes all the studies, conclude, that, where something of so many things is done, nothing can be done thoroughly. The conclusion is entirely right; but the premises are entirely wrong. No pupil ever did such a thing as to take all the studies. No pupil, even if so inclined, would be permitted to do such a thing. Such a thing would defeat a main end of the system. A

main end of the system — perhaps it would be better to say *the* main end of the system — is to afford pupils an opportunity, not of learning a little of every thing, but of learning a few things well, — a few things, not rigidly prescribed, but carefully selected; for, as there are many paths to a right culture, it is believed to be better for each pupil to take, so far as practicable, the path best suited to his mental and physical powers, than for all pupils, irrespective of their powers, to be forced to travel the same path.

Such are the objections to the present system commonly urged as most important. So far as they are not purely fanciful, they are based, it would appear, almost entirely on misconceptions of the nature and working of the system. Other objections there are; but they will generally be found either to lie against drawbacks for which there are compensating advantages, or to involve, not so much the distinctive features of the system as mere matters of detail. Even the advocates of the system are not quite satisfied with its details. They are willing to admit that here, at least, are certain defects which might well be remedied; such, for instance, as the number of hours a week assigned to certain studies, or the order in which certain studies are pursued. They would not, however, approve of having the remedy applied, as some well-meaning doctors advise, so as to sacrifice the system. Still less would they approve, if — as the old system was abandoned for reasons drawn from an experience of its defects — a return to it, or to any thing like it, should be brought about because of alleged defects in the new system that do not exist.

## CALISTHENICS AND MILITARY DRILL.

During the past year the Board have continued the military drill and calisthenics. Bi-weekly exercises in the drill have been required an hour each for the boys, and, for the girls, a lesson in calisthenics of equal length at the same time. These have been under the charge of special instructors, competent by training and taste to do thoroughly well the work assigned them. First Lieut. Carter is a graduate of the West-Point Military Academy; and Miss Ireson is also a trained and enthusiastic specialist in her department. The combined expense of these two schools is six hundred dollars, — a sum so small as to give emphasis to the affirmation of one of our most prominent citizens, that he would not, for five thousand dollars, part with what had been done for his son alone by the military drill. For it must not be forgotten that it was the *physical defects* of the pupils that suggested these drills. Stooping forms in childhood are premature deformities; and, before the introduction of our system of physical culture, our rooms were full of them. Undeveloped muscles, sunken chests, and turtle-heads drawn down between rounded shoulders, were painfully frequent among both boys and girls.

The change for the better is most marked throughout the school; so that, with very few exceptions, the parents acknowledge the benefit to their children, and heartily thank this Board for what has been done.

It will be seen that the primary object aimed at was neither amusement nor exercise, but *culture*, — as truly so as in any other department of the school. A secondary aim, and yet certainly not an unimportant one, was, in the case of the boys, to give them the elements of a

science which they may at any time need, and which, in no unlikely emergencies, restless and turbulent men may force the government to use. Our citizens have had opportunity to see for themselves the soldierly bearing of the High-school battalion, and must acknowledge, that, whatever else the drill is, it is *not* mere boys' play. If our city government can find argument and justification for fostering the Claflin Guard at no inconsiderable expense to the treasury, it will not be difficult for them to sustain the School Board by annually granting the small sum needed to maintain in our High School the military drill.

#### STANDARD OF ADMISSION.

The qualifications for entering the High School have been prescribed by the rules of the Board, with a view to its *widest*, as well as best, influence as a school for all the people. The restrictions upon entering it are based on the supposition that it will best serve the public by maintaining a high standard of education, by making it, what its name implies, an *advanced* school, meeting the demands of the times, and reflecting honor upon our town. Between those who complain that too much is required, and those, on the other hand, who say that we are satisfied with too little, the Board have sought the golden mean, and have left the standard of admission unchanged. It does not seem that it is too high; and in the judgment of the Committee we cannot afford to make it lower, either by modifying the rule, or by careless or mere routine admissions under it. We regard it of primary importance that the examinations on which entrance is made to depend shall be honest and thorough; and this the superintendent

and masters are charged to secure. Added emphasis is given to this demand, not by any admitted failure in the past, but by the tone of public sentiment, and the suspicion that the high schools of our Commonwealth are depreciating in character and solid worth, and no longer afford an education equal to that of private and endowed academies. The warning thus given may well be heeded; and if it be true that some deserve to die, it becomes us to maintain at least our present standard, if we would prove that we deserve to live.

The responsibility of guarding and promoting the well-being of all the schools of the city devolves alike on each member of the School Board; but, for the purpose of securing a more effective supervision, the several schools are respectively given into the more immediate charge of individual members of the Board. A similar rule is adopted by the High School Committee, and the various departments will be found reported below by the gentlemen to whom they have been assigned.

AMOS E. LAWRENCE,  
*Chairman High School Committee.*

#### THE MERCANTILE DEPARTMENT.

The establishment of a mercantile course in our High-school curriculum was an eminently wise and practical measure. Thus far, its results have proved successful and satisfactory. In its educational training, those who seek to become artisans, mechanics, merchants, or cultivators of the soil, or who contemplate other industrial pursuits, are favored with literary advantages and privileges equally adapted to their needs, as are those anticipating services in professional associations.



Of the number enrolled in this department at the commencement of the year, nineteen have been regular pupils, availing themselves of its entire course of prescribed study, so far as included in the year's programme. Others have devoted a portion of their time to mercantile branches in the several class exercises. As an evidence of popular favor and appreciation, it is a pleasure to record the enrolment of forty-two pupils in this course for the year 1879-80.

The master's systematic distribution of the work in this, as in other departments of the High School, has been exceptionally excellent, and, with the co-operation of his assistants in the adoption and application of the best methods of teaching, we are realizing in good measure the practical benefit contemplated in its establishment. In a grouping of the several branches pursued, the average rank attained in proficiency has been especially gratifying. Coupling this result with other and personal facilities for observation and judgment, it is only fair to say that the assigned studies have been mastered with a degree of intelligence and profit developing one of the most important elements of educational culture; viz., the discipline, growth, and encouragement of mental forces into harmonious and independent activity.

In view of the small proportion of our High-school attendants who continue their educational course in academic and collegiate relations, and of the notable fact that so large a number leave the school to enter, often immediately, into the active occupations of business-life, it becomes at once apparent that the importance and value of this department cannot be overestimated. In its judicious combination of classical

and scientific instruction, neither in undue excess, are found the most essential helps to the attainment of that mental culture and development so necessary to efficiency and success in a struggle with the world. Not only to our young men, but to our young women as well, it insures effectual means for the achievement of usefulness and greatness in every sphere of contemplated or probable effort. Endowed with such instrumentality, our mercantile department pre-eminently commends itself to parents and pupils.

JULIUS L. CLARKE.

#### MATHEMATICAL DEPARTMENT.

The writer of this report is gratified to find the administration of the mathematical department of the High School in very able hands, and working, so far as he has seen, with an efficiency and success worthy of unqualified commendation. It is still further gratifying to observe that this but repeats the spirit of previous reports upon this important branch of our school-work.

The practical adaptation of the mathematical course to the individual pupil is a matter not less difficult than important, and worthy yet of serious consideration. While for service in mental discipline, and for many and varied applications in practical life, the study of mathematics has ever held, and, for these permanent reasons, ever must hold, a wide and important place in every wise system of education, yet, still, the fact, fixed by the decrees of nature, must not be lost sight of, that the faculty for mathematics is a very variable gift, and one not corresponding with the average richness and power of the same mind on other lines. Therefore a

most wise discrimination is important here, both on the part of school boards and teachers, that the rules and regulations of the former, and the demands of the latter, should not be oppressive upon those whom no fidelity of their own, no excellence of instruction, nothing, save Omnipotence itself, can make good in mathematics. It is believed, that, by the optional element in the High-school course, the discretion of our teachers, encouraged and sustained by the School Board, will ever keep any useless pursuit of mathematical studies at a minimum.

But it is to be regretted, that, in our grammar-schools, there is no such accommodating flexibility, while there are not wanting cases in which the strict enforcement of the regulation-tests in mathematics for promotion, and the unqualified exactions of teachers, amount to nothing less than crimes against nature. I am not aware that there is any adequate provision for such cases.

An unfortunate incident of the year has made pertinent to this report the suggestion that it is hard to justify that arrangement of studies, especially under a professedly elective system, which keeps out of reach, till the third year, such very practical branches as commercial arithmetic and book-keeping, while so many of our young men entering business-life take no more than one or two years of the course.<sup>1</sup>

W. S. SMITH.

#### THE CLASSICAL DEPARTMENT.

This department during the past year has been under the immediate charge of the master, aided by

<sup>1</sup> See page 30 preceding for "defects in the details" of our system. If a modifying order of the Board, already adopted, to cover this matter, shall be found insufficient, further action will no doubt be taken. — A. E. L.



Mr. Kent, Mr. Davis, and Miss Caroline Spear as assistants. The first three have taught both Greek and Latin; while, of the ancient languages, Miss Spear has taught Latin only. We refer to the statistics on p. 23 for the number of each class engaged in the study of the ancient languages, the number of the last graduating class who have entered college, and the institutions they have joined.

There has been in this department the same earnest work as in the past; and the same effort on the part of the teachers to awaken and sustain the interest of their classes has borne the same good fruit. The pupils, designedly thrown much on their own resources, have welcomed their tasks, not merely as required forms for the solution of a problem, — entrance to college, — but as opening doors of knowledge otherwise closed, and as the most effective means of intellectual training. If the Greek and Latin be dead languages, the dissection of them has at least been full of life. The study is made interesting; and pupils are never more wakeful than when they are called to deal with a page of Xenophon or Cicero.

AMOS E. LAWRENCE.

#### DEPARTMENT OF NATURAL SCIENCES.

The studies embraced in this department, the number of pupils, the average attendance during the year, and the average proficiency in each study, as indicated by the examination in June, will be shown in the following table: —

STUDIES.	No. of Pupils.	Average Attendance.	Recitations.		
			Perfect.	Good.	Deficient.
Physics . . .	78 in three divis'ns,	88 per cent.	20 per cent.	70 per ct.	10 per cent.
Botany . . .	59 in three "	89 "	16 "	64 "	20 "
Chemistry . . .	35 in two "	92 "	36 "	52 "	12 "
Astronomy . . .	30 in two "	85 "	23 "	65 "	12 "
Mathematics (review) . . .	26 in two "	87 "	12 "	68 "	20 "
Commercial arith- metic . . .	11 in one "	94 "	20 "	70 "	10 "
Book-keeping . . .	9 in one "	85 "	-	100 "	-
Politics (for young men) . . .	8 in one "	95 "	10 "	85 "	5 "
Geometry, loga- rithms, &c. . .	1 . . .	99 "	-	96 "	4 "
	257	90 + pr. ct.	21 per cent.	65 per ct.	14 per cent.

The number of pupils, as given in the above table, and their average attendance, is believed to be correct, the latter being a little below the average of last year. Whether the average proficiency of the pupils during the year is as correctly indicated by their recitations at examination is more uncertain. If correct, the record must be deemed satisfactory.

All of the studies enumerated, a number of which are not supposed to belong to the department of natural sciences, are taught by the sub-master, Mr. Sampson; and the question naturally arises, whether one man can do full justice to such an array of studies and so great a number of pupils, especially when, as in this case, the teacher is much occupied with other details of the school.<sup>1</sup>

Owing to the crowding of so many parasites into the natural science department, physiology, which more

<sup>1</sup> Our associate is forgetting, for the moment, the admitted competency of the sub-master to teach these branches, and that they are taught to different divisions of pupils, on different days, and in different terms of the school-year. That superficial instruction or study should result from these facts seems hardly a logical conclusion. Both will of course be elementary, but not necessarily superficial. — A. E. L.

naturally belongs to it, was given in charge of Miss M. Abby Smith ; and twenty pupils in that study were examined, with results, as to attendance and proficiency, very similar to those in the table.

H. S. NOYES.

Our High School is primarily designed for pupils who do not expect to continue their school-life beyond its walls. It has sometimes been represented that the energies of the teachers were given to *classical* instruction, and that the arrangement of the course contemplated chiefly the preparation of pupils for college. The opposite of this is the truth. Only a small minority of those who enter the school are looking to college ; and it is the aim, both of the teachers and the School Board, while not forgetting these, to give the best education possible to such as end their school-life with us. The natural sciences have therefore claimed no small share of their attention ; and whatever could be done, without too great an expense, to facilitate their study, has been wisely sanctioned by the Board. For this reason important changes have recently been made in the chemical room, involving slight expense, but greatly increasing its facilities. A window has been put in, fitted with inside shutters, for use in experiments requiring a dark room. The cabinet of minerals, and the case containing the metric system apparatus, have been removed, and permanently fitted in room 2. The force-pump, no longer needed, has been removed. The room thus obtained has been fitted up for work in qualitative and quantitative analysis. The fittings comprise a large hood, or case, with glass doors and glass ends, and having a pipe for ventilation, extending to the top of

the building, and passing out through the roof. This so-called hood is one of the best features of the room. It is five long, two feet high, and one foot deep, and is lined at the top with tin to prevent its taking fire; and is furnished with three gas-fixtures, which supply heat for the work. In it is done all work with gases which emit an offensive odor, are poisonous or injurious, such as sulphuretted hydrogen and hydrofluoric acid; and such liquids as are very volatile and inflammable, such as bisulphuret of carbon, ether, &c. Beside this hood are two small dark closets for such chemicals as are affected by light. Around the walls of the room are fitted shelves for chemicals and glass-ware; and below these shelves are placed benches for the pupils to work at. These benches are sheathed up, thus providing closets below for keeping apparatus, and are fitted with drawers for tools and nicer pieces of apparatus. Gas-fixtures are provided for furnishing light for the large closet and the tank-room, when needed, and for supplying heat for chemical work. The best feature of the room is an ingeniously-contrived piece of apparatus, extending above and below the sink, by means of which the pupil is enabled to filter, with atmospheric pressure, in a few minutes, what would require hours by the old way. This instrument, which we call "The pump," will run five of these rapid filters at once, and at the same time produce five blasts of air for blow-pipe work; thus doing away with the slow and laborious process with the mouth blow-pipe in blow-pipe analysis. The instrument was made by Mr. O. B. Leavitt, from drawings which we furnished. It consists of a combination of lead and iron pipes, and a small copper air-chamber; contains no valves; can never get out of order; and will

last till the lead and iron wear out. Its cost is but a few dollars; and it supplies the place of ten separate pieces of apparatus, which, if purchased of the dealers in chemical ware, would cost (set up) about six hundred and fifty dollars.

These changes, now quite completed, have provided excellent facilities for five pupils to work at once (all the room will accommodate), which is equivalent to five hours a week of laboratory-work to twenty-five pupils. These changes have been made at the suggestion of the sub-master, Mr. Sampson, and under his supervision. The entire cost was a little over one hundred and fifty dollars.

A. E. L.

#### DEPARTMENT OF MODERN LANGUAGES.

In the French department, under the charge of Miss S. Alice Worcester, the classes this year are unusually large. The aggregate number of pupils in the High School electing the study of French exceeds that of last year by at least fifty (50). The college class numbers eighteen (18). The pupils in all the classes manifest an unusual and gratifying degree of interest and enthusiasm in their work. That much of this is due to the more systematic method of instruction pursued in this department can hardly be doubted. Keetel's Elementary Grammar has been substituted for that author's Analytical work, in order not only to an economy of time, but also to enable the teacher to direct the three-years' course in French to the best advantage of the pupil. Keetel's Analytical Reader has been introduced into the course, and is proving itself to be an excellent text-book. Under this improved method, the course in



French is assuming a shape which promises to give the pupils a thorough practical knowledge of the language, both written and spoken.

There were two classes in the German department last year. The advanced class was taught by Miss Worcester, and the class of those beginning the study by Miss Martha E. Foote. The latter class used Otto's German Grammar, studying about two-thirds of the grammatical part, going through the exercises, and reading some of the literature at the back of the book. The class also read some easy prose in Otto's German Reader. At the beginning of the year, the class numbered eighteen (18). Of these, a majority were special students, several of whom dropped out of the class during the year.

During the present year both classes in German are to be taught by Miss Foote. The class beginning the study numbers twenty-one (21), and the advanced class three (3). The class of beginners seems to take hold of the work with energy and interest, and it is believed is doing well. It is hoped that the advanced class will finish Otto's Reader this year, and read also some classic German prose or poetry. Of this class Miss Foote says, "They disappoint me by having a better pronunciation, and by being more fluent in translation, than I feared from last year's work."

To this statement of the work done in this department during the past, and proposed for the present year, the Committee beg leave to add an expression of the conviction that what is known as the "thorough," or systematic method of instruction in modern languages, is the best to be employed as regards both teachers and scholars. This method, as is known,











without ignoring the importance of being able to converse fluently in the language, aims to teach the pupil to translate and write it. The main grammatical principles and constructions of the language are presented in systematic order through oral and written exercises in rendering the language into the vernacular of the pupil, and *vice versa*. When the pupil has acquired a fair amount of such grammatical knowledge, he is introduced to a Reader containing carefully graded and annotated extracts from good authors, with abundant references to the grammar, together with writing and conversational exercises based on the extracts. These extracts are selected not only with the view of interesting the pupil, but also of increasing his knowledge in the principles and idioms of the language, and impressing them upon his mind. If faithfully carried out, this method enables the pupil to lay a deep and broad foundation of knowledge, upon which he can afterwards build to any extent, easily, surely, and satisfactorily. This is the method of Keetel in his French Grammar and Reader. There seem to be no text-books in German equal to those of Keetel in French. Otto's books, in the hands of experienced teachers possessing a thorough knowledge of the language, give excellent results, and should not be displaced except by books plainly and positively superior.

THOMAS S. SAMSON.

OCTOBER, 1879.

## GRADUATES OF HIGH SCHOOL, 1879.

## FOUR-YEARS' COURSE.

EDWARD L. BACON.	FLORENCE E. BRIGGS.
CHARLES E. BECK.	FRONA M. BROOKS.
CHARLES C. BOTHFELD.	MARY H. BUCKINGHAM.
LOUIS A. COOLIDGE.	MARY E. CHAPIN.
AARON R. CRANE.	CORNELIA COLLINS.
JOHN W. DICKINSON, JUN.	MARGARET CONVERSE.
SYDNEY HARWOOD.	JENNIE M. DANIELS.
WALTER H. HOLBROOK.	LIZZIE B. FROST.
FRANK A. MASON.	LIZZIE C. LAWRENCE.
OSCAR H. PERRY.	ELIZA J. LOVELY.
FRED M. RICE.	EMMA A. MOORE.
ARTHUR K. STONE.	NORMA I. MORSE.
CHARLES P. WORCESTER.	ANNIE P. PORTER.
MAUD L. ATKINSON.	MARION E. SHELDON.
FRANCES E. BOWEN.	LIZZIE G. TOMPSON.

SUSAN C. WOOD.

## THREE-YEARS' COURSE.

JOSEPH W. BRIGGS.	EDWARD D. HOLMES.
WALDO W. COLE.	ALFRED G. LOYD.
JAMES H. McGOVERN.	GEORGE J. MARTIN.
LENDO G. SMITH.	IDA COLLINS.
CORNELIUS S. CORKERY.	LIZZIE H. HENRY.
HENRY J. COX.	ANNA M. POND.
	FANNIE A. BUSS.

## GRAMMAR-SCHOOLS.

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### NEWTON-CENTRE DISTRICT.

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#### MASON SCHOOL.

MORE than the usual number of interruptions, interfering more or less with the progress of the classes, have taken place. Early in the year, Miss Ellen M. Cook, teacher of the first primary class, owing to failure in health, was compelled to relinquish her charge, it was hoped for a few weeks only; but the condition of her health soon made it evident that rest for the entire year was imperative. Miss Cook had proved herself a thoroughly earnest and successful teacher; and her loss to the school, even for a brief period, was to be regretted.

Miss Martin, who, by assisting in the primary classes, had gained some knowledge of the methods of instruction pursued, was appointed substitute. Her good judgment and determination to succeed enabled her to maintain a good degree of excellence in the class for the remainder of the year. With the beginning of the present term, Miss Cook has been able to resume her work, with promise of excellent results for the year to come. The first, third, and fourth classes have opened with so many pupils, that it has been found necessary

to temporarily appoint an assistant, whose time should be divided between these classes. Miss Martin has been appointed to the place.

Miss Ellena M. Thompson, teacher of the second primary grade, was also obliged, at the beginning of the year, to seek release in consequence of ill health. Leave of absence was granted her for the year. Miss Thompson had also proved herself a very successful primary teacher, conscientious and faithful. Miss Harriette E. Bird was appointed her substitute. Miss Bird had also availed herself, to some extent, of the opportunity afforded to gain a knowledge of the school by aiding the regular teachers, and was therefore the better qualified for the place. Her success was sufficient to justify the Committee in nominating her as teacher for the second class for the present year.

Miss Lottie P. Harbach, teacher of the third primary class, completed her third year with her usual marked success. Earnestness and enthusiasm were characteristic of her; and she was able to inspire her classes, in good degree, with these same elements of success. With the close of the year, Miss Harbach tendered her resignation, that she might seek the rest which five years of continuous labor in the Newton schools (two years in the Hamilton School) had rendered necessary for her. Miss Thompson, having so far recovered her health as to be able to resume her work, has been transferred from the second to the third class, as successor to Miss Harbach.

The year opened with an attendance in the fourth and fifth classes too large to be accommodated in their respective rooms, and each too large for one teacher to properly instruct. Accordingly, the larger part of the

fifth class was removed to the upper hall. Miss Clara A. Curtis, who had successfully taught this class for some two years, had resigned her position, much to the regret of both Committee and parents. Miss Mary Tenney, who was already experienced in the Newton schools, was appointed in her place. The remaining portion of the fifth class, with a portion of the fourth, was placed in charge of Mrs. Kate Taylor. The larger portion of the fourth class was placed in care of Miss Hannah Taft. The size and composition of this class made Miss Taft's work an arduous one for the year. Her success was as satisfactory as was to have been expected. Miss Taft commences the present year under conditions of better promise. With the opening of the present year, it became possible to discontinue Mrs. Taylor's class, composed of divisions from the fourth and fifth classes, which was accordingly done. Miss Tenney now has charge of the entire fifth class.

Miss Maria F. Wood continues the efficient teacher of the sixth class.

With the beginning of the year, Miss Emma J. Henshaw entered upon her duties as teacher of the seventh class. While she has done good work, it is but reasonable to presume, that with the year's experience in our schools, and the needs of the class being better understood, she will, in the year to come, be able to do better work than in the past.

The eighth and ninth classes have been successfully taught by Mr. Albert L. Harwood, master, and Miss Mary L. Searle, head assistant. Eighteen pupils of the ninth class received diplomas, and all but one certificates of admission to the High School. One also, from the eighth class, by double promotion, has been admitted to the High School.



It is a matter for congratulation that the grammar-schools of Newton begin the present year with an increase in the number of masters. A school, especially of the size of the Mason, having nine classes, and an aggregate number of about four hundred pupils, needs the entire time of one master.

In organizing under this new order, it was found advisable to remove the eighth and ninth classes to the upper hall, and use the former schoolroom for recitation purposes. This arrangement is found to be working with gratifying success; and the Committee are confidently anticipating that the results of the present year will abundantly prove the wisdom of this change.

JAMES S. NEWELL, *Chairman.*

#### OAK-HILL AND THOMPSONVILLE.

The number of pupils in the Oak-Hill School continues to be small, there having been enrolled three additional names only over the aggregate of the year last reported. These have been under the charge of Miss Mary E. Minter, so long the faithful principal of this school. Two of the pupils at the close of the year in June received diplomas testifying that they had honorably completed the course prescribed for the grammar-schools of Newton.

The necessities of the Oak-Hill School have seemed to your Committee to require a slight modification in its management, from which, under the guidance of the superintendent, good results are expected the coming year.

The school at Thompsonville continues in charge of Miss Helen E. Davis, and has opened the new year with a record-roll of thirty-five names, two less than it num-



bered at the close of the last school-year. These pupils are divided into three classes, — the first, second, and third, the older children of the neighborhood having been removed to the Mason School at the Centre. The average age of these classes is: of the first, five years; of the second, seven years and a twelfth; of the third, nine years and a twelfth.

The attendance has been good, and the teacher seems to succeed in awakening the interest of the children, and securing their attachment. The location of the school proves to be a great convenience to the neighborhood, by making it easily accessible to the youngest children, even in the roughest weather; affording them thus more days of instruction in a year than could otherwise have been secured.

AMOS E. LAWRENCE.

## UPPER-FALLS DISTRICT.

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### PROSPECT SCHOOL.

BUT little can be said of the classes or of the teachers individually, without a repetition of the last report, with the exception of the filling of the vacancies existing at the first of the year. Miss Maud McWilliams was elected teacher of the second class, but, after a few weeks' service, was released, that she might take a school in Boston. Her successor was Miss Lizzie W. Everett, and Miss Helen Norwood was elected teacher for the third and fourth classes.

All the teachers have performed their allotted work successfully, each member of the ninth class having been prepared to enter the High School; and the pupils of the other classes, with but a few exceptions, were fitted for promotion at the close of the year. The exhibition of the work of the classes in their rooms, and the graduating exercises in the hall, were very interesting; and a generous, hearty approval was accorded by the visitors to all the teachers. The classes are evidently receiving much benefit from the wise direction given by the superintendent. All who fully realize the responsibilities which teachers assume, and the amount of work required of them, know that the position is not one to be sought for its ease. One of their indispensable duties,

and which is too often overlooked in estimating the amount of their labor, is their previous careful preparation on all the lessons of each day, without which, none can do their best work, and be prepared to meet the individual wants of their pupils. With whichever grade they may be connected, with a love for the work, they have a sphere of duty broad enough for the full exercise of the best talents, and an object to accomplish worthy of satisfying a reasonable ambition.

At the close of the year, Miss M. M. Miller, who had been an earnest worker, and successful teacher of the sixth and seventh classes for five years, declined to be a candidate for re-election, having made arrangements to assume, instead, the duties of a home.

Mr. Harwood's whole time will now be given to the Mason School, he having been for the past two years master of this in common with the Mason, Hyde, and Oak-Hill Schools, and in this time he has proved himself worthy of confidence, both as a gentleman and teacher.

To the parents, I will briefly allude to the change in our school system, which gives to the schools the benefit of a master's whole time and his undivided interest, which will be of much benefit to the upper classes; and, as we are situated, it has seemed to me to be one of our greatest wants that those scholars who enter the High School only to remain a short time, should, instead, have an opportunity to remain a year longer in our grammar-school. This, with a resolute purpose to accomplish certain work, would be much more profitable for them than to spend the same time in the High School.

Without undervaluing the influence of the female

teachers, I claim that there is no position (it being bounded neither by caste nor creed) which opens so many grand opportunities for exerting good influences on the young as that of a resident master for our public schools; and I shall be disappointed if our village does not receive the advantages anticipated from the change. In Mr. Frost we have a gentleman who is able and willing to work, in school and out, for the welfare of those who are intrusted to his charge, and who, in return, I trust, will receive your hearty co-operation in every good work he undertakes.

J. A. GOULD.

#### HYDE SCHOOL.

During the last school-year, the first and second classes have been under the charge of Miss Alotta E. Stearns, this being her sixth year in this school. It was generally conceded that this school had never, under her charge, done better than during the past year. The exercises, presented by the school on "Parents' Day,"—entirely prepared and managed by Miss Stearns,—were exceedingly interesting, and seemed to completely captivate the large attendance of parents, and other friends of the teacher and school. At the close of these exercises, Miss Stearns's pupils—through their right-hand *man*, Master Eddie Crane—presented her with an appropriate and suitably inscribed gift.

The very uniform and kindly temperament of this lady had secured for her, during her long engagement in this school, many warm personal friends. Her connection with the school ceased with the school-year.

The third and fourth classes have been under the charge of Miss Cevilla B. Richardson, this being her

second year in this school. Every thing considered, the school perceptibly improved during the last half of the school-year. There was an unusually large attendance of parents and others at the exercises of the last day of the term.

A very pleasant episode of these exercises was a presentation to the teacher of an appropriate keepsake from her pupils; Master Weston Allen acting as the *speaker* for the occasion. Miss Richardson's connection with the school closed with the school-year.

The fifth and sixth classes have been under the care of Mrs. Lilla M. Means, this being her second year. Besides having the exclusive care of these two classes, Mrs. Means is the acting principal of all the schools in the building. We use no unmeaning words when we record that this lady has not only done her specific work exceedingly well, but has been a judicious and efficient principal.

The exercises of the final day of the school-year were very fully attended by the patrons of the school and others; and no one competent to discriminate could fail to discover clear evidences of superior teaching. Mrs. Means's services are still retained.

Miss Alice F. Whitcomb of Newton Highlands was selected from a large list of applicants to succeed Miss Stearns in the charge of the first and second classes, and began her work at the commencement of the September (1879) term. Miss Whitcomb's record as a teacher is, without exception, most excellent. If she does not succeed here, she has lost her cunning, and the committee in charge of this school will have made a mistake.

Miss Alice M. Hammond of Wakefield, Mass., suc-

ceeded Miss Richardson in the charge of the third and fourth classes. This lady's history as a teacher shows constant success. She has evidently commenced the new school-year in the Hyde School as mistress of the situation. It is hoped she will prove to be the right teacher and person in the right place.

The number of pupils attending the Mason School, but geographically belonging to the Hyde School, is twenty-one. This arrangement was made as a matter of economy. It was found, by conference with the principal of the Mason School and with the superintendent, that to send these twenty-one pupils to the Mason School would not increase the necessary teaching force in that group of schools; whereas, to retain them at the Hyde School would compel the fitting-up of an additional room and the employment of an additional teacher. It is not improbable, that, by the beginning of the September term, 1880, there will be sufficient material to justify establishing a school here for the seventh and eighth classes.

CHARLES E. ABBOTT.



## AUBURNDALE AND LOWER-FALLS DISTRICT.

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### HAMILTON SCHOOL.

THE Hamilton School sustained itself fully as well as could have been expected under the disadvantages of the several changes of teachers that fell to its lot during the year. In the retirement of Mrs. Ellen M. Leland, who had been connected with this school for nine years, and most of that time as head assistant, the city of Newton lost one of its most valued and successful teachers. Miss Anna G. Swain was consequently advanced to the position of head assistant; while Miss Bancroft filled the vacancy thus caused for the remainder of the year. Upon the resignation of Miss Kimball, Miss Sarah H. Jumper was made teacher in the primary department.

An excellent class of ten pupils was promoted, entire, to the High School.

The present organization of the Hamilton School, securing the tried and undivided services of Mr. Leland as head master, Miss Swain as head assistant, and Miss Jumper for the younger classes, is regarded as a satisfactory and promising arrangement.

W. S. SMITH.

## WILLIAMS SCHOOL.

Of the Williams, it is pleasant to observe that it is one of those Newton schools which our honored superintendent takes particular satisfaction in introducing to the notice of those who are supposed best to appreciate a good school when they see it. Such a tribute as this should be most gratifying and encouraging to those teachers whose faithful and successful work commands such a recognition.

A superior class of fourteen members has been advanced to the High School, this year, without an individual failure.

The nine large classes in this school are getting to be about all the building can accommodate, as well as about as much as five efficient teachers can well care for.

The only change of teachers to be noticed is that involved by the additional masterships in the city schools. Mr. George L. Chandler, one of the three men chosen from the large number of candidates presenting themselves, has been made head master of the Williams School; while Mr. L. E. Leland, agreeably to his own preference, has returned to the mastership of his former charge in the Hamilton School.

W. S. SMITH.



## WEST-NEWTON DISTRICT.

### PEIRCE, DAVIS, AND FRANKLIN SCHOOLS.

THE classes in these schools, with one or two exceptions, accomplished the year's work allotted them in an exceptionally satisfactory manner. The primary classes have done more than the usual amount of work, the result of which we may reasonably expect will be more apparent in the classes to which they have been advanced. The uniform good work of the lower grammar-classes was shown in their test-record, which, with very few exceptions, entitled them to promotion; while the same record, together with the exhibition exercises of the ninth, or graduating class, showed a familiarity with, and thoroughness in, the work covered by the primary and grammar courses, gained only under the direction of experienced and skilful teachers.

We have not been exempt from the difficulty, ever attending graded schools, of making promotions at the close of the year, so as to equalize, as far as possible, the number of scholars in the different classes, and maintain the standard of promotion, and still do no injustice in individual cases, where, owing to circumstances beyond the control of scholar or teacher, there has been a failure to attain the requisite rank for promotion.

In the practical operation of our present system of promotion, the Committee have no direct control ; but, with our present high standard for advancement, no more delicate or difficult duty devolves upon the superintendent than the preparation of the test-work for the various classes.

To prepare this work in plain, direct words within the comprehension of the ordinary pupil, covering, as far as possible, the ground gone over with questions that shall gain the information desired, and at the same time serve as a spur to the pupil and an encouragement to the teacher, is a work of more than ordinary difficulty, and requires perfect familiarity with the work done ; but upon the thorough and careful preparation of the test-work, and the honest and earnest co-operation of the teachers in its execution, the success of the system must depend.

We were fortunate in being able to retain our entire corps of teachers, with the exception of one whom we were obliged to dismiss on account of the change by which the master takes charge in the room formerly occupied by the head assistant. The schools commence the present year under more than usually favorable circumstances.

E. W. WOOD,  
*Chairman District Committee.*

## NEWTONVILLE DISTRICT.

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### THE ADAMS SCHOOL.

DURING the past year the pupils of the upper classes of the Adams School have been in charge of Mr. Levi F. Warren as master, and Miss Jennie M. Morehouse as head assistant, and have generally made satisfactory progress. A larger number of the ninth class than was hoped (seven) fell below the average of attainment required by the rules of the Board for promotion to the High School, and are temporarily on probation for admittance. It is believed, with an accomplished and resident master (now provided), better results will be surely reached in the future. The appointment of Mr. W. F. Spinney, late principal of the Nantucket High School, as master of the Adams School, made it necessary to transfer one of the teachers of the Adams School to the primary class in the Jackson School, lately in charge of Miss Jeannette A. Grant; and Miss A. J. Warner, lately in charge of the eighth class in the Adams School, was so transferred. The other teachers in the Adams School deserve commendation for diligence and skill in the instruction of their respective classes.

### THE JACKSON SCHOOL.

The appointment of Mr. George B. Edwards as principal of the Jackson School has proved a wise step, and the results have been highly satisfactory. A marked change for the better in the deportment and application of the pupils is apparent; and it is confidently believed that as this is one of the largest, so it will soon become one of the best, schools in the city. Miss Jeannette A. Grant, who for many years has done admirable service as teacher of the primary class, resigned her position at the close of the last school-year, much to the regret of all associated with her, and is succeeded in her class by Miss A. J. Warner from the Adams School. In consequence of the new arrangement with regard to masters in the district, it was found possible to dispense with the services of one of the assistant teachers of the Jackson School; and Miss Ellen F. Dalrymple, who has rendered good service for several years past, was not re-elected to her former position. The other assistant teachers of the school have labored with diligence and good success, and begin the present school-year under more favorable conditions than heretofore, and the best results are anticipated.

### THE CLAFLIN SCHOOL.

The teachers of the Claflin School remain as heretofore, and have all been diligent, and successful to a good degree, in their work. The attendance of pupils—owing to bad weather, and an unusual amount of sickness during the year—has not averaged as high as formerly, and the deficiency was most noticeable in the primary classes. Their attainments in reading, writ-

ing, language, singing, and drawing, have been very satisfactory, in arithmetic and geography less so, with a marked deficiency in spelling. It is believed, from visits to many other schools of the city, and repeated trials, that the deficiency named is not confined to the Claflin School, but prevails very generally, and that a large majority of the pupils in classes below the eighth fail to spell correctly many words in ordinary use. It cannot be too often repeated that reading, spelling, writing, arithmetic, geography, and grammar are the essentials of a common-school education, and that other studies should be omitted, or made secondary, until proficiency in these is assured.

Many citizens residing in the Newtonville District think they have grievances which it would seem only necessary to state to secure redress ; but their long continuance, notwithstanding repeated protests and efforts against them, indicates a chronic stage, and affords warrant for noticing them in this report. They are, —

First, That children of the fifth and sixth classes, residing in the neighborhood of the Adams School, and beyond, to the Waltham Line, — all of tender years and experience, — should be compelled in all weather, and exposed to many dangers of health and limb, to go, some of them a mile, and most of them a half a mile, out of their way, to the Claflin School for instruction.

Second, That children of the eighth and ninth classes, residing near the Claflin School, and beyond, as far south as Bullough's Pond, should be compelled to go equal distances, with similar exposures to danger of health and limb, to the Adams School for instruction.

These grievances are needless, because there are pupils enough in each section of the district — making the railroad the dividing-line — for classes of all grades in each school; and the school-buildings and grounds in each case are suitable and ample for their accommodation. They are also injurious to the district and to the city, as many cases of withdrawal of children from these schools, and even of removal of families to other places, in consequence of these grievous exactions, could be cited, if necessary.

Grievance third, That in the northern half of the district, with but two hundred and ten dwelling-houses, and a much smaller valuation and tax-payment, there should be stationed two male teachers (high priced, and competent to teach the highest classes in the district), one head assistant equally accomplished and competent, and six assistant teachers; whilst in the southern half, with two hundred and sixty-seven dwelling-houses, and a much higher valuation and tax-payment, four female teachers only, of the lower grades, should be provided, and thought sufficient.

Fourth, That the other principal centres of population and wealth in the city should be provided with classes and teachers of all grades, including the eighth and ninth, in buildings and rooms accessible and convenient, whilst Newtonville, equal, if not superior in population and taxable property, to most of such centres, is deprived of the privilege and benefit of having its older pupils educated near their homes, free from needless exposure and danger, and under a master who shall reside among them, and be interested in them and in the families to which they belong.



It is sincerely hoped that these grievances, which have continued much too long, and are not fancied, but real, and hard to be borne, may be redressed at an early day.

H. S. NOYES,  
*Chairman District Committee.*

## NEWTON DISTRICT.

As to the schools in the Newton District, the Committee of that district have nothing of special interest to report.

They feel generally well satisfied with the work of the past year, and hopeful of greater good the coming year under the new arrangement, by which the master is able to give so much more time to the work of teaching. They can see in the primary schools a marked improvement and interest both on the part of teachers and pupils.

In reading, especially, there has been a decided gain. They would recommend that some steps be taken in this grade of school to teach in an easy, familiar way *botany*, and some elementary lessons in *natural history*.

They think the influence of the superintendent in this grade has been especially valuable and important, as it should be, as here the groundwork has to be done, the foundation laid. How necessary that it should be well done!

In the Bigelow School, Miss Prince's retirement is the only change. They regretted her loss, and congratulate her on her promotion to a position in the Bridgewater Normal School. The examinations at the close of the year gave entire satisfaction.















As to the course of study, your Committee think it would be wise to have the ninth-class work extended over two years, and enlarged so that those who do not want to, or cannot, go to the High School, can have a more thorough drill in English, including in this history and reading, and have some instruction in book-keeping.

This might require a modification of the High-school course ; but they think that to the grammar-school the mercantile course of the High School, so called, more properly belongs.

All the studies of that course, with the exception of French and German, could, with advantage, be required in the grammar-schools.

With these suggestions your Committee submit their report.

LINCOLN R. STONE,  
*For the District Committee.*

## DRAWING.

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THE Committee on Drawing have the honor herewith to submit their annual report.

This department continues under the efficient charge of Mrs. Emma F. Bowler, whose work during the past year has been confined mainly to the High School, although it was arranged and graded for the primary and grammar schools. Two examinations were given during the year, — one under the personal supervision of Mrs. Bowler, in the latter part of the month of February; another, a written one, in the latter part of the month of June. The work, on the whole, was found to be satisfactory. In some classes, however, there was evidence of improper teaching in design, the teacher not understanding the principles. The Committee recommend, as matter of great importance, that the primary schools be kept closely to the standard, to avoid a decline that cannot subsequently be remedied.

The time allotted to classes in the High School is little enough for the accomplishment of the work which ought to be done. The pupils, however, have manifested an interest in their work; and the result has been gratifying. The work has varied from year to year, according to the ability of the pupils; but the effect of the drill in the grammar-schools is now being felt, and more and better work is possible.



The programme for the fourth class during the year was as follows : —

Two books in linear perspective, with an original problem from each pupil.

Nearly one book in model-drawing.

Three ancient styles of historic ornament.

One applied design.

Some few examples of shade from copy.

The programme for the third class during the year was as follows : —

One book in angular perspective.

Model-drawing from solid in light and shade.

One applied design.

The programme for the first and second classes, which came together at the same hour, was as follows : —

Cast-drawing in light and shade, stump.

Botanical analysis.

Water-color from copy.

Original design.

A few pupils in architectural drawing.

The work for the coming year will be nearly the same as above in the third and fourth classes, but very much more in the first and second.

The following is a statement of the number of pupils in drawing : —

	For the year 1878-79.	For the year 1879-80.
Fourth Class . . . . .	33	53
Third Class . . . . .	27	27
First and Second Classes . . . . .	12	24

The teachers' classes were held from October until May ; the whole number of teachers in attendance being

sixty-nine (69), and the number of diplomas awarded being twenty-seven (27).

The mornings of Saturday were given to instruction of a part of the teachers at the High-school building. For the convenience of teachers living in the districts not easy of access to Newtonville, instruction was given at Newton Centre, after school-hours, on other days. This plan did not work well. The teachers were often tired, the light was variable, and the results were not so satisfactory as would have been obtained under other and better conditions. The plan which promises the best results, and which, all things considered, seems the most practicable, is to request the attendance of all the teachers at the High-school building on the mornings of Saturday. If, as hereinafter referred to, an advanced class shall be formed of such teachers as have completed the required course, and received a diploma, the Committee recommend that instruction be given on alternate Saturday mornings to teachers pursuing the regular course. If, however, there should not be a sufficient number of pupils to justify the formation of an advanced class, it is recommended that the teachers meet once a week in order that the work may be done quickly and more effectively.

The advanced course of instruction to which reference has just been made is that provided for in the accompanying circulars, marked "Exhibit B," from the Massachusetts Normal Art School and the State Director of Art Education.<sup>1</sup> From these circulars it will be seen that an evening school has been organized for the purpose of qualifying the regular teachers of public schools, and others desirous of becoming so, to give instruction

<sup>1</sup> These are omitted as too long for publication in this report.

in drawing in the several grades of day schools. Upon passing the required examination, such persons shall become entitled to certificates in the three grades,—primary and intermediate, grammar, high and normal schools. Arrangements have been made by which the teachers of the Newton schools can take this course of instruction with Mrs. Bowler, and receive the certificate referred to; but no work, in addition to that which has hitherto been required of our teachers, will be necessary to entitle them to the diploma given by the city of Newton.

All of which is respectfully submitted.

THOMAS S. SAMSON,

J. Q. HENRY,

H. S. NOYES,

*Committee on Drawing.*

## INDUSTRIAL DRAWING.

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THE Committee on Industrial Drawing beg leave to report as follows : —

It is a matter of deep regret that no more interest is manifested by the young men and young women of Newton in the matter of industrial drawing.

It would seem that the opportunity of gaining that which shall be a life-long source of pleasure and of profit, gratuitously furnished, would only need to be known to draw out in large numbers those for whose benefit it is designed. But for successive years instructors have been appointed, of acquired reputation, gentlemen employed in similar schools in the city of Boston, and all the necessary appliances furnished at the public expense. But, either because of other too pressing engagements, or because of a lack of interest in the matter itself, the classes have not had the attendance which their importance should entitle them to.

During the winter of 1877 and 1878 no classes were formed. It was hoped that for the winter of 1878 and 1879 the attendance would indicate an increased interest.

Col. A. Hun Berry was employed to take charge both of the mechanical and freehand drawing. In October, classes were formed at the High-school building, New-

tonville, and at the Mason School at Newton Centre. In January, Col. Berry, having been appointed by the governor adjutant-general of the State, resigned his position in Newton. Mr. Miller was recommended by Gen. Berry as his successor, and was employed by the Committee. Both these gentlemen were competent instructors. But the class at Newton Centre was largely made up of young pupils, members of the high and grammar schools. The class at Newtonville had a larger proportion of adults; but in neither case could the results be considered fairly commensurate with the expenditure made.

Your Committee are forced to the conclusion that there is not at present sufficient interest felt in the matter to justify the formation of classes in industrial drawing, and, until there shall be a more manifest demand for it, would recommend that no more money shall be expended in that direction than the laws of the State require.

Respectfully submitted.

JAMES S. NEWELL, *Chairman*.

## REPORT ON MUSIC.

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THE Committee on Music, in their report a year ago, directed attention to the action of the School Committee, by which a special instructor in this department was discontinued. Yielding to the pressure of the call for retrenchment, the Board, after a long and earnest discussion, finally voted to give over the music into the charge of the regular teachers, and thus save this one item of expense to the city treasury. But the experiment has proved a costly one. Though we require of all our teachers an ability to instruct in music, and though effort was not spared by your Committee, aided by masters and teachers, to keep up the department, it was evident, even after a short trial, that the music was declining. Your Committee were therefore compelled, a year ago, to report that "the expectation that the teachers would care for the music in their respective rooms, and not allow the department to run down on their hands," had not been realized, and that the necessity for a special teacher had been demonstrated. The present year's experience has only strengthened this conviction. We gladly recognize the efficient service of a portion of the teachers, whose special culture, or exceptional gifts of nature, have come to their aid; but it has been made evident that the

majority of them are not up to the demand we have made upon them. The ability to teach well in any department is a gift, notably so in music; and nature has not imparted to all those even who have proved themselves most competent and efficient workers in other departments, the musical sense in such degree as to make them successful instructors in this. It is the concurring testimony of the superintendent, and of the masters and teachers, that we are falling below the standard we have heretofore maintained; and it is the judgment of them all, and of your Committee, that, if our past enviable position is to be regained and held, a special instructor is the imperative need of the schools. In this judgment, moreover, we think the citizens of Newton will coincide. If music is to be taught at all in our schools, it would seem to be only the dictate of common prudence that it should be so taught as to justify the money outlay. The business-world has long since recognized the principle, that it is wiser to expend a dollar and get a return of one and a half, than to pay ninety cents and get back only seventy-five. Either let us abandon altogether this department as a branch of public education, or so teach it as to warrant the expense. This Board have shown their readiness to do the latter, and voted, a year ago, — in response to a numerously-signed petition asking it, — to retrace their steps, and recall the special instructor to his work. But the pecuniary means needed to do it were refused by the Common Council, and the project failed. In this action we do not believe they would be sustained by their constituents. The intelligent interest in music throughout all this region, — which is largely due to our public-school instruction, — the love for it as a



means of refinement and a perennial source of pleasure, the pride justly felt in the world-wide reputation of our community for musical culture, all forbid that we should sacrifice to a supposed economy this branch of our public-school instruction. The experience, moreover, of other cities and towns who have made the same experiment with us, and with the same disastrous results, but who, unlike us, have reversed their action, and returned to special instruction, is an added argument in the same direction.

In behalf of the Committee.

AMOS E. LAWRENCE, *Chairman.*



## EVENING SCHOOLS.

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THE Committee on Evening Schools report that they re-opened the evening school for men and boys in the Lincoln building, Ward 1, on the evening of Oct. 14, 1878. The school continued until Feb. 21, 1879, three nights each week, except at Christmas-time, making forty-six nights in all. The number of pupils enrolled was seventy. The nationality was: Irish, 40; Americans, 25; French, 1; Canadian, 1; Unknown, 3; Total, 70.

The average attendance was fifteen each night; but the variation was from five to forty-four.

For a part of the time there were three teachers employed, and, as the attendance demanded it, one or two others were engaged for short periods.

The instruction given ranged from teaching the alphabet to lessons in book-keeping.

GEO. W. SHINN, *Chairman*.  
LINCOLN R. STONE.

## SUPERINTENDENT'S REPORT.

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TO HIS HONOR THE MAYOR AND THE SCHOOL COMMITTEE OF NEWTON.

*Gentlemen,*—The report of the superintendent of the public schools of Newton, for the year ending Sept. 1, 1879, is herewith respectfully submitted:—

### SUMMARY OF STATEMENTS FOR THE SCHOOL-YEAR ENDING JUNE 30, 1879.

#### I. — POPULATION.

Population of the city, State census, 1875 . . . . .	16,105
Number of persons in the city between five and fifteen years of age May 1, 1879 . . . . .	3,028
Number of persons in the city between five and fifteen years of age May 1, 1878 . . . . .	2,846
Increase for the year . . . . .	182

#### II. — SCHOOLS.

Districts supervised by principals . . . . .	4
Districts supervised by committees . . . . .	6
High School, — both sexes . . . . .	1
Grammar-schools, — both sexes . . . . .	2
Grammar and primary . . . . .	11
Primary . . . . .	3
Whole number day schools . . . . .	17
Number of evening schools . . . . .	1
Number of evening drawing-schools . . . . .	2

#### III. — SCHOOLHOUSES.

Number of schoolhouses for High School . . . . .	1
Seats . . . . .	300

Schoolhouses for grammar and primary grades . . .	17
Sittings . . . . .	3,376

## IV. — TEACHERS.

Number of teachers in High School . . . .	8
(Male, 4 ; female, 3.)	
Number of teachers in grammar grades . . . .	29
(Male, 4 ; female, 25.)	
Number of teachers in primary grades . . . .	50
(Male, 0 ; female, 50.)	
Number of teachers having primary and grammar grades,	10
Whole number of teachers in day schools . . . .	77
Whole number of teachers in evening schools . . . .	5
Special teachers . . . . .	3
(Calisthenics, 1 ; drawing, 1 ; military, 1.)	
Whole number of teachers . . . . .	85

## V. — PUPILS.

Number of different pupils enrolled 1879 . . . .	3,397
Number of different pupils enrolled 1878 . . . .	3,359
Increase . . . . .	38
Average number of pupils belonging for the year . . . .	2,791.7
Average number of pupils belonging for the year 1878 . . . .	2,740
Increase . . . . .	51.7
Average daily attendance (day schools) . . . .	2,540.9
Average daily attendance 1878 . . . . .	2,527
Increase . . . . .	13.9
Average daily absence (day schools) . . . .	250.8
Average per cent attendance . . . . .	91
Average number belonging to High School . . . .	253.2
Average daily attendance at High School . . . .	232.7
Per cent of attendance at High School . . . .	94
Day schools — Tuition . . . . .	\$60,601 75
Incidentals . . . . .	9,380 29
Total cost . . . . .	\$69,982 04

Amount appropriated by city council :—

Salaries and officers, janitor, and fuel . . . . .	\$70,769 71
Dog-tax . . . . .	1,014 30
Incidentals . . . . .	9,116 21
Unexpended balance . . . . .	000 00
Total . . . . .	<u>\$80,900 22</u>

Total appropriations city expenses . . . . . \$367,850 00

Per cent appropriated for schools 1878 . . . . . .219

Per cent appropriated for schools 1879 . . . . . .219

Valuation of city May, 1878 :—

Real . . . . . \$17,456,655 00

Personal . . . . . 6,333,697 00

\$23,787,352 00

Per cent valuation expended for schools . . . . . .00345

Total expenditures for schools . . . . . \$82,260 08

Expense per capita whole number pupils enrolled . . . \$24 22

[For further details see secretary's report.]

### PROMOTION.

#### GRAMMAR AND PRIMARY GRADES.

*Per cent of Pupils in each Grade.*

DATE.	GRADES.									Total.
	I.	II.	III.	IV.	V.	VI.	VII.	VIII.	IX.	
September, 1873 . . .	19.8	12.5	12.1	15.6	12.8	11.1	6.5	5.5	4	100
September, 1876 . . .	14.6	14.7	12.9	16.1	10.8	9.7	10	6.3	4.9	100
September, 1877 . . .	15.9	12.1	13.6	14	14.8	8.5	8	7.5	4.7	100
September, 1878 . . .	16.2	13.1	11.5	12.8	14.8	11.3	7.3	7.1	5.9	100
September, 1879 . . .	16.1	13.6	13.4	11.1	12.8	11	10.1	6	5.9	100.

*Number in each Grade.*

DATE.	GRADES.									Total.
	I.	II.	III.	IV.	V.	VI.	VII.	VIII.	IX.	
September, 1873 . . .	498	316	304	390	323	280	163	137	101	2,512
September, 1876 . . .	380	383	338	420	282	252	261	165	129	2,610
September, 1877 . . .	424	321	361	398	394	225	214	199	126	2,662
September, 1878 . . .	428	347	306	341	392	300	194	190	157	2,655
September, 1879 . . .	431	365	359	298	344	294	271	159	157	2,678

*Number in each Grade by Districts, September, 1878-79.*

DISTRICTS.	GRADES.									Total.
	I.	II.	III.	IV.	V.	VI.	VII.	VIII.	IX.	
Newton, 1877 . . . .	67	53	54	85	74	48	44	38	18	481
“ 1878 . . . .	59	66	49	56	87	49	48	53	28	495
“ 1879 . . . .	66	71	69	44	71	56	63	28	45	513
Newtonville, 1877 . .	111	81	85	84	81	34	61	41	19	597
“ 1878 . . . .	88	93	69	74	87	51	36	42	39	579
“ 1879 . . . .	80	90	99	60	71	67	40	32	40	579
West Newton, 1877 . .	71	51	75	60	86	43	32	36	29	483
“ 1878 . . . .	84	50	57	63	65	80	27	27	29	482
“ 1879 . . . .	82	58	48	49	77	40	66	31	18	469
Newton Centre, 1877 .	127	104	110	123	101	61	56	50	29	761
“ 1878 . . . .	134	104	104	113	105	80	56	46	32	774
“ 1879 . . . .	160	101	103	106	96	88	67	41	36	798
L. Falls, Aub'dale, '77,	48	32	37	46	52	39	21	34	31	340
“ “ '78,	63	34	27	35	48	40	27	22	29	325
“ “ '79,	43	45	40	39	29	43	35	27	18	319
Totals, 1877 . . . .	424	321	361	398	394	225	214	199	126	2,662
“ 1878 . . . .	428	347	306	341	392	300	194	190	157	2,655
“ 1879 . . . .	431	365	359	298	344	294	271	159	157	2,678

*Per cent by Districts, September, 1878-79.*

DISTRICTS.	GRADES.									Total.
	I.	II.	III.	IV.	V.	VI.	VII.	VIII.	IX.	
Newton, 1877 . . . .	13.9	11	11.2	17.7	15.4	10	9.1	7.9	3.8	100
“ 1878 . . . .	11.9	13.3	9.9	11.3	17.6	9.9	9.7	10.7	5.7	100
“ 1879 . . . .	13	13.9	13.4	8.6	13.9	10.9	12.4	5.5	8.4	100
Newtonville, 1877 . .	18.8	13.5	14.2	14.1	13.5	5.7	10.2	6.9	3.2	100
“ 1878 . . . .	15.2	16	11.9	12.8	15	8.8	6.3	7.3	6.7	100
“ 1879 . . . .	13.7	15.5	17.1	10.4	12.4	11.6	6.9	5.5	6.9	100
West Newton, 1877 . .	14.7	10.6	15.5	12.4	17.8	8.9	6.6	7.5	6	100
“ 1878 . . . .	17.4	10.4	11.8	13.1	13.5	16.6	5.6	5.6	6	100
“ 1879 . . . .	17.5	12.4	10.2	10.4	16.4	8.5	14.1	6.6	3.9	100
Newton Centre, 1877 .	16.7	13.7	14.5	16.2	13.2	8	7.3	6.6	3.8	100
“ 1878 . . . .	17.3	13.4	13.4	14.6	13.5	10.4	7.2	6	4.2	100
“ 1879 . . . .	20.1	12.7	12.9	13.3	12.0	11.0	8.4	5.1	4.5	100
L. Falls, Aub'dale, '77,	14.1	9.4	10.9	13.5	15.8	11.5	6.2	10	8.1	100
“ “ '78,	19.4	10.5	8.2	10.8	14.8	12.3	8.3	6.8	8.9	100
“ “ '79,	13.5	14.1	12.5	12.2	9.1	13.5	11.0	8.5	5.6	100

## REPORT OF SCHOOL COMMITTEE.

Primary, Grammar, and High Schools, September, 1879.

SCHOOL.	GRADE.															
	I.		II.		III.		IV.		V.		VI.		VII.		VIII.	
	Av. Age.		Av. Age.		Av. Age.		Av. Age.		Av. Age.		Av. Age.		Av. Age.		Av. Age.	
	Number.	Years.	Number.	Years.	Number.	Years.	Number.	Years.	Number.	Years.	Number.	Years.	Number.	Years.	Number.	Years.
Mason	47	5	42	7	48	8	55	9	59	10	42	11	41	12	28	14
	{ 1878.	5	{ 1879.	2	{ 1878.	8	{ 1879.	4	{ 1878.	10	{ 1879.	11	{ 1878.	10	{ 1879.	2
	68	6	40	3	47	8	54	6	47	11	52	11	51	13	25	15
Prospect	35	5	36	7	33	8	29	5	29	10	24	11	13	12	16	14
	{ 1878.	5	{ 1879.	6	{ 1878.	7	{ 1879.	9	{ 1878.	10	{ 1879.	11	{ 1878.	12	{ 1879.	1
	35	5	35	11	31	8	30	9	26	11	26	11	16	12	14	1
Hyde.	25	5	16	7	15	8	25	9	14	10	14	11	..	..	..	..
	{ 1878.	5	{ 1879.	3	{ 1878.	8	{ 1879.	8	{ 1878.	10	{ 1879.	11	..	..	..	..
	29	6	15	1	16	5	16	10	22	10	8	11	..	..	..	..
Thompsonville.	23	5	8	8	8	9	3	..	..	..	..	..	..	..	..	..
	{ 1878.	5	{ 1879.	1	{ 1878.	8	{ 1879.	..	{ 1878.	..	{ 1879.	..	..	..	..	..
	18	5	9	7	8	8	4	..	..	..	..	..	..	..	..	..
Oak Hill	4	6	2	7	3	..	4	9	3	10	..	..	2	12	2	14
	{ 1878.	6	{ 1879.	7	{ 1878.	1	{ 1879.	10	11	11	..	13	..	..	3	8
	10	8	2	7	1	8	6	2	1	10	2	..	..	..	1	25
Hamilton	20	5	8	7	8	8	10	9	23	10	8	11	4	11	..	101
	{ 1878.	5	{ 1879.	6	{ 1878.	8	{ 1879.	11	{ 1878.	11	{ 1879.	11	6	12	13	97
	15	6	8	7	8	8	17	9	7	11	24	11	6	12	10	..
Williams	43	6	26	7	19	8	25	9	25	11	32	12	16	12	4	224
	{ 1878.	6	{ 1879.	3	{ 1878.	8	{ 1879.	8	{ 1878.	10	{ 1879.	11	7	29	14	9
	28	6	37	5	30	8	7	10	8	22	19	12	2	13	18	222
Peelce	..	..	..	..	..	..	..	..	41	11	38	12	6	27	27	162
	{ 1878.	..	{ 1879.	..	{ 1878.	..	{ 1879.	..	{ 1878.	..	{ 1879.	..	6	12	10	9
	..	..	..	..	..	..	..	..	..	..	40	12	10	13	9	155
Franklin	27	5	24	6	29	8	18	9	24	10	..	..	..	..	..	122
	{ 1878.	5	{ 1879.	9	{ 1878.	7	{ 1879.	9	{ 1878.	10	{ 1879.	..	..	..	..	..
	42	6	11	6	23	7	25	3	40	10	8	..	..	..	..	141

Total.

380

405

225

227

109

106

39

35

21

25

101

97

224

222

162

155

122

141

Davis .	{ 1878 .	57	6	2	26	7	7	28	8	4	45	9	11	37	10	42	12	..	..	..	..	..	..	..	..	..	..	198
	{ 1879 .	40	6	1	47	7	4	25	8	11	24	9	6	37	..	11	..	..	..	..	..	..	..	..	..	..	..	173
Adams .	{ 1878 .	21	6	..	19	7	..	21	8	7	16	9	8	..	..	..	..	..	..	..	..	..	..	..	..	..	..	158
	{ 1879 .	9	5	11	33	7	6	31	8	11	17	9	6	..	..	..	..	..	..	..	..	..	..	..	..	..	..	172
Chafin .	{ 1878 .	16	6	3	31	7	4	15	8	3	24	9	6	45	10	24	12	4	24	12	3	..	..	..	..	..	..	179
	{ 1879 .	21	5	10	23	7	2	28	8	5	15	9	7	35	10	34	11	9	9	3	10	..	..	..	..	..	..	165
Jackson .	{ 1878 .	51	5	6	43	7	2	33	8	9	34	10	6	42	11	8	27	11	11	12	9	..	..	..	..	..	..	242
	{ 1879 .	50	6	..	34	7	..	40	9	1	28	10	4	36	11	4	33	12	6	21	12	6	..	..	..	..	..	242
Bigelow .	{ 1878 .	..	..	..	..	..	..	..	..	..	56	9	9	87	11	1	49	11	10	48	12	9	53	13	8	28	14	321
	{ 1879 .	..	..	..	..	..	..	..	..	..	44	9	8	71	11	2	56	11	10	63	13	4	28	13	11	45	14	307
Underwood .	{ 1878 .	44	6	5	50	7	7	45	8	2	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	139
	{ 1879 .	50	6	1	54	7	6	50	8	9	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	154
Lincoln .	{ 1878 .	15	5	7	16	7	..	4	8	2	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	35
	{ 1879 .	16	5	6	17	7	..	19	8	5	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	52
Total .	{ 1878 .	428	6	..	347	7	3	306	8	4	341	9	9	392	10	11	300	12	..	194	12	8	190	13	7	157	14	5 2,655
	{ 1879 .	431	5	9	365	7	3	359	8	6	298	9	9	344	10	11	294	11	8	271	13	1	159	13	7	157	14	5 2,678
High .	{ 1878 .	35	18	+	53	18	+	76	16	+	96	15	+	Special	10	11	300	12	18	2	Total .	..	260	..	..	..	..	..
	{ 1879 .	36	17	7	60	77	1	72	16	3	127	15	4	344	10	11	294	11	8	271	13	Total .	..	305	..	..	..	..
																												Increase, 1879 . 23

Total, 1878, 2,655; including High . . . . . 2,915

Total, 1879, 2,678; including High . . . . . 2,993



## ATTENDANCE.

The attendance—ninety-one per cent—is by itself the indication of interest on the part of the pupils in school-work, and also of the faithfulness of the teacher in maintaining a commendable interest therein. As compared with other places, Newton holds a high rank both as to the per cent of attendance of her school population and the per cent attendance of whole number enrolled.

Perhaps in no one matter is the interest of the teacher in school-work more manifest than in the vigilance shown in promptly looking up all cases of absentees. Though the repeated cases of absence without cause are few in number throughout the city, it is not forgotten that all such cases are the most deserving of attention; and pupils making such a record need more than others the influences of the school-room. The watchfulness of the teachers in this direction merits the highest commendation. Failure on the part of a teacher to inquire at once into the cause of absence is a failure of grave importance, not only to the pupil, but to the whole school.

## SCHOOLHOUSES.

During vacation, the schoolhouses and grounds received all necessary repairs. And here it may not be amiss to state, that, next after good teaching, the school accommodations of Newton have contributed to the excellent results of her school system. With ample seating capacity, her schoolhouses are located at points of easy access, their number obviating the necessity of very large buildings with overgrown schools, and crowded rooms. While the buildings are generous in proportions for the number of pupils to be accommodated, the number of pupils to a school, as will be seen by reference to the table of attendance by classes, is not such as to require that strict semi-military discipline in and about the premises that is no less a restraint upon the pleasure and development of the pupil physically than it is wearisome and cramping to his mental and moral progress. In



brief, the size of the schools is admirably adapted to a free and full development of the pupils under a minimum of restriction upon all their activities. In this respect the city is most fortunate.

With pleasant schoolrooms and ample play-grounds, both tastefully ornamented, — and the former generously supplied with needful aids to illustrate and diversify the daily tasks, — and abundant material for work of teacher and pupil, results of a high order are only a just and reasonable expectation.

#### TEACHERS.

With excellent accommodations, and most liberal supplies of incidentals, to maintain the schools uninterruptedly at a high standard of excellence, great care must be exercised in the selection of teachers to fill the vacancies from sickness, resignation, or other cause. Until our normal schools grant their diplomas to those only who have distinguished themselves for aptness to teach, as well as for scholarship and good endeavor, we have no sure source of supply of good teachers to take the places of experienced teachers, causing vacancies.

With many names upon our list of applicants, it is no small difficulty to select with confidence one who will unquestionably prove a success in our schools. We have found but few among those assisting as apprentice-teachers who have shown first-rate ability to teach; and, so far as opportunity offered, they have been employed as regular teachers. The plan adopted by the Board, of allowing the graduates of the High School to serve as apprentices, would undoubtedly secure much excellent talent for the schools; but, to be a complete success, several considerations must receive the attention of the Board, among which are the following: —

1. The apprentices must have shown a good record at the High School.
2. Must be as constant and regular in their work as the regular teacher.
3. Must pursue a course of study or reading during the apprenticeship, prescribed by the superintendent.

4. They must meet as a class, and discuss matters pertaining to teaching and school-work, as often as the superintendent may require.

5. Others than graduates of the High School, when properly qualified, may be permitted to join the class.

6. Those who have served a reasonable time, and shown the required skill, shall have the preference with the Board in the election of teachers.

With a clear understanding of what is required, and the possible end to be attained, we have no doubt much talent, trained in the ways and methods of our schools, may be secured. But, to succeed in this, the responsibility of selecting teachers for any given class ought to be definitely fixed, and the failure of a teacher to perform the work assigned should be reported from the same source.

The method of filling vacancies as they occur, either temporarily or permanently, deserves the early attention of the Board. Frequent embarrassment has arisen in attempting to fill vacancies requiring immediate action. An examination of candidates, or their credentials, at stated times, — say once or twice during the year, — would relieve the question of much of its present difficulty.

#### TEACHERS' MEETING.

Teachers' meetings have been held, as required by the Rules and Regulations. Much good results from the occasional interchange of views upon the work of the several grades. And the full attendance upon the grade-meetings indicates a clear purpose, on the part of the teachers, to maintain a high professional rank. Teachers who cannot find time to attend these cannot generally find time to improve their methods. The interest usually manifested at these meetings, as to the work to be done, and the methods of doing it, fully justifies the wisdom of the regulation establishing them. During the past year they have by no means fallen off in interest or profit, or in attendance. Absences therefrom have generally been promptly and satisfactorily explained.

## INSTRUCTION. — PROMOTION.

While following the course of study adopted by the Board as to the prescribed stages of promotion, it has been found necessary, in exceptional cases, to allow a certain degree of elasticity to promote the best interests of the pupils and the school. To remove all cause for misunderstanding as to the matter of promotion, a few words upon the policy advised by the superintendent in the matter of instruction of the individual classes may not be amiss. The frequently well-founded complaint against the graded system, that there is danger of magnifying the school at the expense of the pupil, when the number of pupils in attendance will not warrant separate classes for each grade, cannot be made against the schools of Newton. It has been the aim of the superintendent to strengthen the opinion, among teachers of every grade, that the necessity of two classes or grades in one room to a single teacher is a positive advantage rather than a disadvantage. This opinion is entertained by many of our ablest educators, and, we believe, is now held by almost all of our teachers. A very small number only, who have not time to do the work of a single grade, and never will have time, without change of methods, to attain their ideal results, hold to the contrary opinion.

Again: the most skilful teachers, with but one grade of forty or fifty pupils, do not attempt to treat them as a single pupil, all studying or attending to the same point at the same time. It is clear, that, by such a course, one-half of the time must be lost to the pupil, and therefore the class is made into, at least, four sections: while one section recites, the remaining three study, thus doubling the time for recitation and study both. Such a division gives room for extra work to the more mature, and the needed assistance to the more backward.

Active, competent teachers, who are always prepared to conduct their recitations independently of the text-book, can render all required help to their pupils while a portion are

reciting, can see that they are not wasting their time, and judiciously aid them in their work at the proper moment. As a rule, work that is not done at the proper time is never done. The proper time for school-work is from nine to twelve and from two to four; and to learn to do their work at the proper time, to be prompt in attendance at school, and to prepare the task assigned in the hour given to it, is really to influence the life of the pupil more than any thing else to be learned at school, perhaps more than all else. To allow a pupil to remain idle habitually in school, and expect to reform him to good work by aiding him out of school-hours, is to defeat an important end of school-life, — the formation of habits of industry and punctuality. When the teacher substitutes the assigning of lessons and the hearing of them for the higher duties of inspiring a love for learning by all the ways that skill and tact always readily devise, and the stimulating of each pupil to a healthful activity, it takes but a short time for the very genius of dulness to gain full possession of the class, while all thought and effort of memory become wearisome, difficult, and impossible. Neither the teacher nor the class can do the pupil's work: he must do it for himself; and while it is true that he *must* do it, the methods by which he is compelled to it distinguish clearly the power and rank of the teacher. No pupil is at his best, working under fear, — whether from fear of punishment, or loss of rank. The highest results are obtained when the pupil's conscious progress is the sufficient stimulus to greater exertion. To desire to learn something is the child's normal condition; to succeed gives him pleasure, and encourages effort. To so apportion the work and agreeably diversify it as to quicken the pupil's interest therein tests the skill of the teacher. The pupil will not fail to share the enthusiasm of the teacher; and on this account the skilful teacher makes the school, irrespective of per cents, methods, and courses of study. A genuine love for the work will always find a way of doing it; if not by one of the many already known, it will invent one of its own.

Occasionally an inexperienced or wearied teacher thinks this or that cannot be done, there is not time. Let us see. In our modern public-school system, the child enters at the average age of six years. If he leaves the grammar-school at fifteen, nearly one-quarter of his life is gone in school and vacation; if he leaves the high school at nineteen, and college at twenty-three, one-third of his life is gone; and ought he not at each of these stages to have accomplished much to prepare him well for the next half or third, which will be the limited amount he can give to greatest activity? For during school-life his studies are supposed to task him so severely, that his vacations must be given to recreation; and he is in no little danger of passing the golden period of his life without acquiring habits of voluntary industry, or becoming conscious of the countless possibilities within the scope of his own powers. Time is not wanting to accomplish all and more than the course of study demands; only a better knowledge of how to use it is occasionally needed.

We have said thus much to meet the criticism, sometimes made by others besides teachers, that the school-work is over-crowded. If reading, writing, and arithmetic, the essentials of a good education, were alone required, then our course should be reduced three years at least, if not more; for six years' continuous effort upon these ought to suffice for the average pupil. But it is found that quite a percentage of pupils gain a year or more in the course; and many of our teachers think more and different work could be done with greater interest and profit to the pupil. So that we are forced to the conclusion, that it is not the amount of work that troubles teacher or pupil, but the kind and method of it. Fulness of knowledge upon all related topics will enable the teacher to awaken and keep alive the pupil's interest in the narrow work of the curriculum. The instruction in the several grades during the past year, as shown by the written and oral examinations, has been highly satisfactory; and the success attained by several grades is shown by the tables annexed.



## THE PRIMARY GRADES.

Very marked improvement has been made in the primary grades in reading, writing, and number. Lack of faith in the results possible to be reached by an earnest, wise handling of the little ones, and *supposed lack of time* to try better methods, have caused the exceptions. As the teacher cannot learn for the pupil, and his powers, physical and mental, are only beginning their development, the natural limits of the work of these grades are more easily discovered. And right here we think the first grave and important errors may be made in the child's education. And as these errors are fundamental, and vital to the successful working of any system of education, we have thought best to explain with some definiteness, at risk of the charge of theorizing, one or more of the principles we have endeavored to establish upon the much confused, at the present time, question of primary education.

While believing most fully many things in educational methods that have in fact had the sanction of the wisest educators for all time, but more definitely and widely since the time of Bacon, we at the same time wish to take exception to some of the assumptions apparently supposed to underlie the philosophy of some of the methods in question. These are of the highest importance to any theory of education, since the whole superstructure must depend for its symmetry and permanency, in a large degree, upon the spirit and methods laying the foundations thereof.

The most damaging of these assumptions is the fundamental one, in some of our normal instruction, that the child at five years of age knows nothing of number; and thereupon is built what may properly be termed the "idiot theory" of education, that is, the assumed idiocy of the child.

The enthusiast of this theory holds up three fingers to the child, and in answer to his question, "How many?" the child says, two, or four, as the case may be; and the answer is held to be proof that the child has no idea of number, and he is

forthwith doomed to a wearisome drill *to develop his ideas of number*, which is as insulting to his present knowledge and power as it is false in theory. There could not be, in our opinion, a clearer *non sequitur*, nor a more damaging one, extending its influence through nine long years of the pupil's life, to gain an incomplete mastery of the few principles underlying all arithmetical operations. As well might one say a mathematician failed in just conception of number, because at a glance he estimates a group at ten, which, upon counting, proves to be nine or eleven. We hold to exactly the opposite of this generally received opinion, and believe that the *first clear and complete conceptions of the child are of number*; that as soon as, by the aid of the geometrical faculty in differentiating form, the child is conscious of the existence of an object, even indistinctly, the idea of the existence of one thing is born, — one object, unity; and, as soon as it can positively distinguish its mother or nurse, not only is the idea of unity complete, but at the same time duality is realized, the rest of the world being one. As soon as it can recognize two persons or things, the idea of three is completed; these two, and all others as one, making three; and so on, the most definite ideas of the child being those of number. But he cannot express them readily in English or Arabic (the decimal system), or, for that matter, in Greek or Chinese, at the age of five years. Of course, special reference is had to ideas gained through the sense of sight, though it is difficult for one to imagine any ideas previously gained through other senses to be more clear and distinct in any other respect than in relation to the simple existence of objects or units.

The child's failure is not in the ability to imagine numbers of simple units, but in the proper use of the language commonly applied to the expression of it, — the simplest form of which is the decimal system, — that he is to learn by counting objects, until made familiar with its simpler units, tens, hundreds, and thousands. When he has learned the decimal system in the representation of numbers, to attempt to treat

exhaustively the higher units with their fractional parts, so that when three hundred, for example, is named, the child will think of the number of its simple units, instead of only three units of a large number, is to abuse the child's imagination, and defeat the very end to be served by learning the decimal system. While the free use of objects greatly aids in teaching the significance of the characters used in the decimal system, and objects should always be used therefor, yet if carried to excess, as it is liable to be under the "idiot theory," it will surely end in confusing the child's mind as to the object of the drill, and thoroughly disgust him with the whole subject of computation, affecting his whole subsequent progress in mathematical studies. The average child should seldom be troubled with objects after the first year in his arithmetical operations, except for occasional reviews of the decimal system, and illustrations of fractional terms. After he has learned the simple operations upon numbers, he is again to learn in denominate numbers. modifications of the decimal system by the aid of objects, which will abundantly aid his imagination and judgment.

Next after this false assumption as to the child's ideas of number, and more damaging in its influence upon the pupil's successful introduction to school-life, comes that which must necessarily underlie the much abused object-method of teaching, as illustrated by those of whom it seems to have taken exclusive possession, under the impression that material objects are the only legitimate objects of thought for the child. With them it would seem the assumption is made that the *child has neither memory nor imagination*; whereas we would formulate the opposite opinion, that the child has both in a wonderfully free and untrammelled condition, ready, without effort on its part, to serve the child in whatever interests it. No one can argue against true object-teaching; and we only now refer to it to criticise certain misapprehensions as to its use, and to object to the absurd restrictions and limitations into which a misconception of its true scope is wont to lead the inexperienced in their work.



It best suits our purpose to illustrate its abuse in the very first steps taken by the child to learn to read. The child, for example, is to be taught the sentence, "*I see a cat.*" There could be nothing more unphilosophical than to exhibit a *cat*, one or more, or to ask Johnny to describe his *cat*, and Jane to tell the color of hers, its name, &c., or to direct the attention of the pupil or class to the picture of a *cat*; all which talk and picture would serve only to divide the pupil's interest, and so weaken his power to attend to the real purpose in view. The real and only objects to which his attention should be directed are the words, "*I see a cat,*" with sufficiently minute attention to each letter and its sound, to enable the child to recognize the word when reproduced, and with sufficient repetition to enable him to recall the forms on hearing the sounds. The simplest principles of philosophy require this. Hence it is much better to teach the child to read from the board or printed slips than from picture-books. All attempts to explain the ideas and thought are out of place, and confusing. There is no idea in the words, "*I see a cat,*" that the child does not perfectly realize; and the thought of the sentence is as clear to him as to any one. He knows what it means as well as he ever will; and to undertake to explain to him the idea of *seeing*, *I*, and *cat*, which he so well knows, is not only to insult his intelligence, but hinders his progress by absurdly diverting his attention from the proper objects of his thoughts. — the characters that stand for his oral expression "*I see a cat.*"

The fundamental principle in object-teaching is never to use the sign of the object when the object itself can be presented; for attention to the sign distracts the child's attention from the thing signified. And in learning to read, for the child, the words are the objects to be taught: the objects for which they stand, in this case, become the signs of the words.

Picture-reading is so easy and pleasant to old and young, that many excellent artists are constantly employed upon this most impressive and most rapid method of telling a

story. The pictures of childhood remain ineffaceable through age, when the words can seldom be recalled. The office of the picture is to teach some lesson: it should not distract the child's attention from the words to be learned. The word itself, if the idea it conveys is familiar to him (as it ought always to be in the first steps of learning to read), is *the picture* we wish to impress most deeply upon his mind. But, in the examination of results obtained by any method, it is not to be forgotten that an enthusiastic teacher with an unphilosophical method will produce far better results, on the surface, at least, than an indifferent teacher with philosophic method.

All explanations of the idea and thought are foreign to the work and a hindrance, because, in learning the written language, the words should be taken from the child's vocabulary, and sentences given him of which he perfectly grasps the thought, and realizes the idea of every word. There cannot be too much talk at other times *by the pupil*, with the class and teacher, upon all subjects interesting him, to improve his use of language; but, in his direct attacks upon written language, any thing said beyond securing his attention to the words and sounds he is to learn disturbs and hinders him. The average child at school-age can readily understand all the thoughts usually found in first readers. It is well to print the sentences, as fast as learned, upon little slips of paper, cut it into triangles and rectangles, with a word upon each piece, and give it to the child to re-form, which will amuse him, and cultivate the geometrical faculty at the same time that it is true object-teaching of the very objects to be learned. He should also spell by sound, from the beginning, daily, all that he has learned, but *never* unless his eye is fixed upon the word so spelled. This cannot be too carefully attended to, if he is to learn to spell; since this practice, and writing all he reads and learns, are all the exercises in spelling he will need at first.

Having illustrated thus some of the methods pursued in most of our schools, we return to the more legitimate task

to speak of their condition. As we said before, the work done has been exceedingly satisfactory in the primary grades, giving evidence of most faithful efforts on the part of the teachers, and corresponding progress of the pupils under their instruction. In addition to the generous supply of books by the city, and a liberal assortment of other aids to primary instruction, one teacher invites her pupils to bring their own books, and read to her and the class from them, — a practice much to be commended to all grades, — thus not only adding an interesting variety to the exercise, but giving the teacher an excellent opportunity to learn the kind of reading interesting the pupil, and also to improve and guide his tastes therein. Another, in the second grade, besides making excellent progress in reading, writing, and number, taught her class two hundred lines or more of choice poetical selections, which they seemed always delighted to recite in concert or individually, — more as a pastime than as a task, for the simple reason that the heart of the teacher was in all of it. On visiting recently another teacher of the same grade, we found her with a small section of five pupils reading, and at the same time three other sections, in different parts of the room, reading each to little pupil-teachers of the advanced section of the room, who, by their wonderful zeal and tact, already gave proofs of superior teaching ability. Each pupil was reading a whole lesson or more, and doing it admirably and orderly, under the youthful tutor; and it would be difficult to say which received the greater benefit from the exercise, — the teacher, or the taught. All these teachers have time enough for the required work, and some to spare in making the children happy by all those little ways instinctively known only to those who love them. But we have not room to speak of all the excellent work done so faithfully by all the teachers of these grades. We refer to the above as illustrative specimens.

#### GRAMMAR-GRADES.

The work of the grammar-grades has been performed during the year with the usual fidelity and success. In two or

three cases only, temporary inconvenience was felt by necessary changes of teachers. But the final results, as shown by the written and oral tests, were of a satisfactory character. It is due to the earnest, efficient teachers of these grades to state that throughout the year a most gratifying and more marked individual effort was observed in all the work, a more secure feeling of independence in methods, and a certain personal responsibility for results obtained; all which are the surest signs of progress, — are, in fact, the results of a proper effort on the part of the teacher to realize his or her own ideal in school-work. The highest results can be obtained, we believe, only when the largest freedom of action is allowed under the rules, with the strictest individual responsibility.

While the examinations for promotion must have somewhat more or less of a technical character in all the grades, special effort has been made to have them show at the same time, as much as possible, the general training of the pupil, and his ability for independent thought. The papers of the ninth class gave evidence of careful drill in the required work, and excellent preparation for advanced study. Having frequently observed the methods of instruction, and the progress made during the year, it was with confident expectations of an excellent record that we certified to their qualifications for admission to the High School. The average age of the class, its marked ability, and its general excellence of character and deportment, will enable it, we feel assured, to sustain a high rank in the High School; thus reflecting proper credit upon the work done in the grammar-grades, and manifesting at the same time a more just appreciation of the opportunities here provided for a broader and more liberal culture.

It is not necessary to enumerate the long list of excellent methods adopted by different teachers to accomplish the required work of these grades. One illustration will suffice. We were particularly pleased with the enthusiasm of one class as shown by the ingenuity of some of its members in

extemporizing simple apparatus of their own construction to illustrate the elementary principles of physics,—one of the studies pursued by a section of the eighth grade, which also did the work of the ninth.

Such efforts of the pupil, however rudely constructed the pump, engine, or battery may be, are deserving of the highest commendation; for this is education of the best, most practical kind. In this as in other matters, as well as in the general tone and bearing of the pupil, there are the clear evidence of still higher attainments.

#### PENMANSHIP, DRAWING, AND MUSIC.

The examination-papers at the close of the year were remarkable for neatness of appearance, and general excellence of the penmanship. With few exceptions, they exhibited a great degree of uniformity in their preparation. It is confidently expected that still higher excellence will be obtained in this branch as the lower grades, having given greater attention to the exercise, advance to the higher. Both in penmanship and drawing it is evident the regular teacher may be able to give the necessary instruction in a perfectly satisfactory manner. As one need not be a mathematician before venturing to instruct in the principles of common arithmetic, so one need not wait to become an artist before attempting to teach the elementary steps in drawing. Though the results have been satisfactory in these branches, the most important fact concerning each is, that there are evidences that still better results will follow. In music, while the work has been all that might reasonably be expected, it is clearly evident that the regular teacher does not feel always the confidence in her own ability necessary to accomplish the best work. While much faithful work has been done by those who have musical taste and ability, and with satisfactory results, others have not been able to carry on the work with the same degree of success as with the aid and supervision of an able special instructor.



## DISCIPLINE.

We are in great danger of ultimately abolishing the very charms of childhood by the absurd restraints we put upon its innocent freedom of action. We seem to be in too great haste to file and march it on all occasions into the measured step, grave demeanor, and dignified repose, that will so well become it when it has learned by practice the duties and responsibilities of the citizen-sovereign. For boys and girls who are not trained to some manual labor, gymnastics or other *regular* drill will not suffice. Healthful, out-of-door sports must be engaged in, that will give by their free exertion buoyancy of spirits, life, and activity to the physical and mental powers.

Inexpensive games and sports should not be allowed to die out, nor give place to organized clubs, so costly in preparation, and so wasteful of time and energy in settling disputed contests, or passing upon alleged violations of the laws of the game as established by the national association. Even the old-fashioned, hilarious, free-and-easy game of base-ball, formerly played for pure fun instead of profit, seems to have passed away; and it is painfully ludicrous to see a handful of boys fantastically arrayed, with ball of absurd density, preventing its free and fun-provoking use as of old, spend half of their time, that ought to be given to the exhilarating sport, in discussing the proprieties and rules of the game as played by paid professionals who have other objects in view beside winning the game in hand. Are we to have no childhood, no boyhood and girlhood, to witness the innocent pastimes of which keeps dulness from age, and perpetuates the charms of existence?

If we would have greater mental activity, the child must have greater physical freedom. Boys have a ready source of useful exercises always at hand at friendly trials of strength in all kinds of sports; not so with the girls: the proprieties, as well as the teacher's regulations, sadly interfere with their free enjoyment of youthful sports. Therefore it is no small

part of a teacher's duty, and highest privilege, if she would secure a ready and orderly compliance in learning their tasks, or a quiet, respectful listening to her instruction, to aid them in devising innocent games, and encourage them in all proper youthful sports.

But it is said, "We must watch them," "They must keep off the grass." Why must they keep off the grass? "Because they will mar the beauty of the plat;" and "is there any thing more beautiful than a well-kept grass-plat?" Most certainly there is; and it is a grass-plat or lawn with groups of joyous children (boys and girls) thereon, indulging with perfect freedom in all proper, innocent sports.

In riding through the city a benevolent philosopher would say, "What a thoughtful people! How happy childhood must be here! How fortunate children with such playgrounds, compared with those who live among mere piles of brick and mortar!" — the grass-plat, so beautiful to the sight, so soft to their little feet, so elastic a cushion for the little rough-and-tumble games so useful in developing their muscles and in quickening their mental as well as physical activity, so inviting in color and neatness. Why should they be told to keep off the grass-plat, when it seems so admirably contrived for their special needs?

This is one only of the unreasonable restraints we put upon childhood. To hamper the child with unnecessary and unreasonable restraints, clearly against his own judgment, is to make him eager to break through all restraints, whether reasonable or not, is to confuse his judgment as to the proper and improper, the right and the wrong. For these reasons, we have been gratified at every attempt we have witnessed to allow the largest possible freedom to pupils of every grade, consistent with an orderly, respectful deportment.

With proper oversight, and judicious management of the occasional abuse of such freedom, we believe the greatest possible success will be attained under it in training up the youth of our schools to become self-respecting, order-loving, law-abiding citizens.

HIGH SCHOOL.<sup>1</sup>

The results of the principal's first quarterly examination of the fourth class of the High School, in the main, justifies the expectations of the superintendent, elsewhere expressed in this report. The age and ability of its members give promise of an excellent record throughout their course.

In the classical department of our high schools there is a fixed and definite course of study required of the pupil, the satisfactory accomplishment of which is an imperative necessity for successful advancement to the higher college course supposed to be in view. The same course is sometimes thought to be able to give a sufficient education to one who intends completing his studies with graduation at the High School. No greater mistake could possibly be made as to what constitutes a valuable practical education in accordance with the demands of the times.

The classical courses in their minimum requirements assume that a given amount of work must be done by the pupil to entitle him to a certain rank or position as a scholar among educated people.

A course of study based upon an assumption so venerable from the long series of years it has held an almost unquestioned sway over the public mind has by itself a marvellously inspiring influence upon the young pupil's mind.

That influence is clear and positive. He thinks these studies are indispensable; for the wise in such matters are all agreed upon their necessity: surely, then, these paths must lead directly to the fields of knowledge, and the moral effect of the confidence inspired by such definite requirement cannot be over-estimated. With pupils entering upon work the importance of which is thus emphasized, whatever may be its real ultimate value to their right education, there springs up naturally enough a certain *esprit de corps* that ordinarily carries on the class to sure victory. With the general or scientific course, the perfection of which should be the highest

<sup>1</sup> From December quarterly report.



aim in a system of public education, the case is entirely different. Not only do the schools themselves differ as to the number and extent of branches pursued, but occasionally the same school attempts to offer all possible combinations of such courses.

Such an attempt, seemingly based upon the assumption of the impossibility of agreement upon what is possible and necessary in a general course, is not only wasteful of the teaching force of the schools, but most disastrous in its influence upon the mind of the young pupil. The crowning glory of our public schools is the definite provision for the most liberal, most practical education for the average future citizen, not for specialists and professionals.

The general or scientific course so far transcends all other purposes of the public school, that its successful accomplishment should entitle the pupil to the highest school honors the city can confer.

To this end it should be definitely arranged according to the logical dependence of the branches pursued, and should admit of no doubt or option in the child's mind as to the importance of thorough mastery of the work assigned.

All pupils need not be required to complete such a course, sufficient cause excusing them therefrom; and such pupils could receive a diploma stating the exact ground passed over. But that such a course should be properly mapped out for them we think is beyond the shadow of a question.

Living in an age when the startling discoveries of every day not only open up new fields of investigation, but throw their illuminating rays far back upon the obscure past, it is the clear right of the pupil to be put in full accord with all the best methods and thoughts of his time. There is ample time for this, if he begins aright, and does not waste his energies upon fruitless tasks.

With the excellent art-room, philosophical and chemical laboratories, generously provided by the city, and the natural history cabinets (yet to be completed), the advantages of our High-school pupils for a superior practical education cannot easily be surpassed.

## CONCLUSION.

In conclusion, the condition of the schools is such as to command the hearty support of this Board and the full sympathy of the citizens by whom and for whom they are sustained. Notwithstanding occasional errors and temporary failure of success as a body, the faithful teachers intrusted with the education of the youth of the city are entitled to your fullest confidence.

In order to increase their efficiency, to enable them to attain more nearly their own ideal standard of excellence, it only remains for me to ask that the same generous, liberal, honorable treatment, that has ever characterized all your relations with them, be continued.

E. HUNT, *Superintendent.*

Nov. 26, 1879.









# SECRETARY'S REPORT.

## STATISTICS.

NAMES OF TEACHERS.	Department.	Class.	Whole No. of Pupils during the Year.	Average Whole No.	Average Attendance.	No. of Pupils under 5.	No. of Pupils over 15.
<i>High School.</i>			282	253.2	232.7	-	249
Francis A. Waterhouse . . . .	Master.						
Ezra W. Sampson . . . . .	Sub-Master.						
John F. Kent . . . . .	Assistant.						
S. Warren Davis <sup>1</sup> . . . . .	"						
S. Alice Worcester . . . . .	"						
Carrie Spear . . . . .	"						
M. Isabel Hanson . . . . .	"						
M. Abby Smith . . . . .	"						
Mattie E. Foote . . . . .	"						
<i>Special Teachers.</i>							
Jennie E. Ireson . . . . .	Calisthenics, Elocution.						
R. G. Carter . . . . .	Milit. Drill.						
Mrs. Emma F. Bowler . . . .	Drawing.						
<i>District No. 1.</i>			916	744.5	688.8	8	45
Albert L. Harwood . . . . .	Master.						
<i>Mason School.</i>							
Mary L. Searle . . . . .	Head Assist.	8, 9					
Emma I. Henshaw . . . . .	Assistant.	7					
Maria F. Wood . . . . .	"	6					
Kate Taylor . . . . .	"	5					
Hannah H. Taft . . . . .	"	4					
Lottie P. Harbach . . . . .	"	3					
Ellena H. Thompson . . . . .	"	2					
Ellen M. Cook . . . . .	"	1					
<i>Prospect School.</i>							
Martha L. Perkins . . . . .	Head Assist.	8, 9					
Marion M. Miller . . . . .	Assistant.	6, 7					
Ella F. Crooker . . . . .	"	4, 5					
Helen Norwood . . . . .	"	3, 4					
Lizzie W. Everett . . . . .	"	2					
Mary P. Fanning . . . . .	"	1					
<i>Hyde School.</i>							
Lilla M. Means . . . . .	Principal.	5, 6					
Cevilla R. Richardson . . . .	Assistant.	3, 4					
Alotta E. Stearns . . . . .	"	1, 2					
<i>Oak-Hill School.</i>							
Mary E. Minter . . . . .	Principal.	1, 2, 4, 5, 7, 8					

<sup>1</sup> Substitute for Miss Hanson.

NAMES OF TEACHERS.	Department.	Class.	Whole No. of Pupils during the Year.	Average Whole No.	Average Attendance.	No. of Pupils under 5.	No. of Pupils over 15.
<i>Thompsonville School.</i>							
Helen A. Davis . . . . .	Principal.	1, 2, 3					
<i>District No. 2.</i>			380	306.3	257	6	25
Luther E. Leland . . . . .	Master.						
<i>Hamilton School.</i>							
Ellen M. Leland }	Head Assist.	6, 7, 9					
Anna G. Swain }							
Carrie L. Kimball . . . . .							
Sarah H. Jumper . . . . .							
	Assistant.	4, 5					
	"	1, 2, 3					
<i>Williams School.</i>							
Elizabeth A. Pinnoock . . . . .	Head Assist.	8, 9	930	770.2	705.6	3	55
Phoebe W. Bunker . . . . .	Assistant.	6, 7					
Ella F. Brown . . . . .	"	4, 5					
Susan E. Copeland . . . . .	"	2, 3					
Ann B. Smith . . . . .	"	1					
<i>District No. 3.</i>							
Levi F. Warren . . . . .	Master.						
<i>Peirce School.</i>							
Sarah A. Warren . . . . .	Head Assist.	8, 9					
Mary J. Pickering . . . . .	Assistant.	7, 8					
Eliza E. Simmons . . . . .	"	6					
Elizabeth F. Paddock . . . . .	"	5, 6					
<i>Davis School.</i>							
Ella G. Bates . . . . .	Principal.	6					
Calista S. Wood . . . . .	Assistant.	4					
Lucy E. Davis . . . . .	"	2, 3					
Sarah E. Foster . . . . .	"	1					
<i>Franklin School.</i>							
Emma J. Thompson . . . . .	Principal.	4, 5					
Susan P. Richmond . . . . .	Assistant.	2, 3					
Mary E. Tufts . . . . .	"	1					
<i>Adams School.</i>							
Jennie L. Morehouse . . . . .	Head Assist.	9					
Abby J. Warner . . . . .	Assistant.	8					
Estella M. Haynes . . . . .	"	3, 4					
Lydia A. Brierly . . . . .	"	1, 2					
<i>Clafin School.</i>							
Alice Pitts . . . . .	Principal.	6, 7					
Lilla T. Wilder . . . . .	Assistant.	5					
Mary R. Ware . . . . .	"	3, 4					
Lizzie Flint . . . . .	"	1, 2					
<i>District No. 4.</i>			889	717.5	626.8	4	36
H. Chapin Sawin . . . . .	Master.						



NAMES OF TEACHERS.	Department.	Class.	Whole No. of Pupils during the Year.	Average Whole No.	Average Attendance.	No. of Pupils under 5.	No. of Pupils over 15.
<i>Bigelow School.</i>							
Clara C. Prince . . . . .	Head Assist.	8, 9					
Eudora Sanford . . . . .	Assistant.	8					
Martha M. Bakeman . . . . .	"	7					
S. Louise Shelton . . . . .	"	6					
Josephine H. Waters . . . . .	"	5					
Anna F. Gage . . . . .	"	4					
Mary H. Dwyer . . . . .	"	4, 5					
<i>Underwood School.</i>							
Emma M Cleary . . . . .	Assistant.	3					
Annie L. Wood . . . . .	"	2					
Josephine W. Littlefield . . . . .	"	1					
<i>Lincoln School.</i>							
Alotta C. Wilmarth . . . . .	Assistant.	1, 2, 3					
<i>Jackson School.</i>							
George G. Edwards . . . . .	Principal.	6, 7					
H. Augusta Millard . . . . .	Assistant.	5					
Louise W. Stearns . . . . .	"	4					
Ellen F. Dalrymple . . . . .	"	3					
Ella M. Hotchkiss . . . . .	"	2					
Jeannette A. Grant . . . . .	"	1					

The following Table gives the Statistics of Monthly Attendance, and the Aggregate Attendance, for School Year ending June 27, 1879.

SCHOOLS.	SEPTEMBER.			OCTOBER.			NOVEMBER.			DECEMBER.			JANUARY.			FEBRUARY.		
	Average Whole No.	Attendance.	Per cent Attendance.	Average Whole No.	Attendance.	Per cent Attendance.	Average Whole No.	Attendance.	Per cent Attendance.	Average Whole No.	Attendance.	Per cent Attendance.	Average Whole No.	Attendance.	Per cent Attendance.	Average Whole No.	Attendance.	Per cent Attendance.
Mason . . . . .	372.3	341.8	91.9	375.8	340.6	91.4	309.3	343.1	91.1	378.3	322.4	86.5	365.9	322.6	89.7	362.2	315.2	88.1
Prospect . . . . .	200.4	201.5	95.6	221.1	209.9	95.1	265.2	242.4	91.6	215	190.2	89.3	206	187.4	90.5	208.6	189.6	91.9
Hyde . . . . .	104.9	98.4	93.7	99.8	92.8	93.1	99.6	90.2	90.8	98.8	88.1	88.2	98.1	88.3	90.2	94.4	79.4	84.4
Oak-Hill . . . . .	18.7	17.1	91.4	22.1	18.3	82.8	19.4	15.2	78.3	20.3	16.7	82.6	17.5	12.6	72	16.4	12.5	76.2
Thompsonville . . . . .	36	34.2	94.8	37.3	35.9	95.5	37	34.7	93.1	37	32.1	86.8	33.9	28.5	85	36	31.4	87.2
District No. 1 . . . . .	741.3	69.3	93.5	756.1	697.5	91.6	820.5	725.6	89	750.3	649.5	86.7	721.4	639.4	85.5	717.6	628.1	85.6
Williams . . . . .	208.2	196.5	94.2	217.9	209.5	96.2	215.9	201.5	93.3	213.1	192.3	90.5	209.9	189	90.6	200.4	182.4	91
Hamilton . . . . .	96.4	93.4	96.8	98.9	96.3	97.6	99.9	96.8	96.8	96.3	91	94.9	95.7	93	97.2	105.7	91.6	96
District No. 2 . . . . .	304.6	289.9	95.5	316.8	305.8	96.9	315.8	298.3	95	309.4	283.3	92.7	305.6	282	93.9	306.1	274	93.5
Peirce . . . . .	159.1	155	97.4	159.4	150.2	94.4	158.9	153.1	96.2	157	145.4	92.6	154.7	147.9	95.6	152.5	142.2	93.2
Davis . . . . .	188.6	178.5	94.8	194.9	184.6	94.9	203.7	192.6	94.8	189.8	182.3	96.7	191.4	174.6	91.8	192.5	171.6	89.7
Franklin . . . . .	119.2	114.4	95.8	118	108.9	92.3	115	107.6	92.7	114.3	104.3	90.6	113.5	104.1	90.5	111.5	99	86.5
Adams . . . . .	145.4	135	92.8	150.2	139.4	92.8	150.9	136.6	90.5	149	130	87.1	143.4	124.8	86.9	145.1	124.6	85.8
Clafin . . . . .	163.2	152.4	93.3	174.3	162.4	93.2	169	152	90.1	156.3	132.8	83.5	149.9	130.2	86.7	145	125.7	86.2
District No. 3 . . . . .	775.5	735.3	94.8	796.8	745.5	93.3	797.5	741.9	92.8	769.4	675	88.1	752.9	681.6	90.3	746.6	663.1	88.3
Bigelow . . . . .	315.3	295	93.4	316.9	292.6	92.4	309.5	282.7	91.4	306	266.2	87.1	295	261.8	88.9	304.3	269.2	88.8
Underwood . . . . .	139.6	126.7	91	145.9	134	91.6	140.5	115.1	82.6	145.8	117.1	80.5	142.4	105.8	74.3	142.6	119.3	83.5
Lincoln . . . . .	30.1	28.1	93.3	36.9	34.9	94.5	38.7	36.2	93.7	37.2	31.5	84.6	34.8	29.5	84.7	35.4	30.4	85.8
Jackson . . . . .	231.5	201.8	87.1	233	205.1	88	228.9	199.1	87.3	228.3	197.1	86.3	214.3	177	82.5	216.2	181.1	84
District No. 4 . . . . .	716.5	651.6	91.2	732.7	666.6	91.6	717.6	633.1	88.8	717.3	611.9	84.6	686.5	574.1	82.6	698.5	600	85.5
High . . . . .	274.4	262.5	95.6	271.2	258.4	95.2	269.7	247.2	91.6	267.5	242.8	90.7	261.9	239.1	91.3	254.7	232.5	91.1
Total . . . . .	2812.3	2632.3	94.1	2873.6	2673.8	93.7	2921.1	2646.1	91.4	2813.9	2462.5	88.6	2728.3	2416.2	88.7	2723.5	2397.7	88.8

The following Table gives the Statistics of Monthly Attendance, and the Aggregate Attendance, for School Year ending June 27, 1879.

SCHOOLS.	MARCH.			APRIL.			MAY.			JUNE.			YEAR.		
	Average Whole No.	Attendance.	Per cent Attendance.	Average Whole No.	Attendance.	Per cent Attendance.	Average Whole No.	Attendance.	Per cent Attendance.	Average Whole No.	Attendance.	Per cent Attendance.	Average Whole No.	Attendance.	Per cent Attendance.
Mason . . . . .	389.8	335	90.9	365.6	324.3	89.8	356.1	320.1	90.5	345.5	301.6	88.4	-	-	-
Prospect . . . . .	211.1	193.3	91.9	220.8	207.7	94	223.9	212.7	95.3	193.6	181.5	94.5	-	-	-
Hyde . . . . .	96.2	88.4	91.9	108	97.7	90.7	101.2	95.3	94.2	105.9	98.9	93.2	-	-	-
Oak-Hill . . . . .	16.7	15.3	82	19.7	17.6	77.6	20.3	16.2	73.8	18.6	15.3	82.2	-	-	-
Thompsonville . . . . .	36.5	33.6	92.1	36	32.9	91.3	37	35.5	96	36	34.3	95.4	-	-	-
District No. 1 . . . . .	750.3	665.6	89.8	750.1	677.9	88.7	738.5	679.8	91.1	699.6	631.6	90.7	744.5	688.8	89.2
Williams . . . . .	199.1	183.5	92.2	212.3	196.2	93	210.7	198	95.3	201.2	187.9	93.8	-	-	-
Hamilton . . . . .	94.2	91.2	96.8	94	91.4	97.1	97.7	94.6	96.7	96	93.5	97.6	-	-	-
District No. 2 . . . . .	293.3	274.7	94.5	306.3	287.6	95	308.4	292.6	96	297.2	281.4	95.7	306.3	287	94.8
Peirce . . . . .	151.7	141.5	93.3	146.1	139.1	94.9	140.5	131.9	93.7	135	128.4	95.1	-	-	-
Davis . . . . .	181.1	165.3	91.4	198.4	182.7	92.6	203.2	189.2	93.5	203.1	187.9	92.9	-	-	-
Franklin . . . . .	114	107.8	94.9	123	113.8	92.9	130.7	121.8	93.1	133	125.1	93.9	-	-	-
Adams . . . . .	141.4	129	91	148.9	131.7	88.4	149.8	135.5	90.3	146.1	133.2	91.2	-	-	-
Clafin . . . . .	144.7	130.6	89.4	154	139.5	90.6	162	149.8	92.5	156.3	139.8	89.2	-	-	-
District No. 3 . . . . .	732.9	674.2	91.8	770.4	706.8	91.9	786.2	728.2	92.6	773.5	704.4	92.5	770.2	705.6	91.6
Biglow . . . . .	298.6	269.1	90.2	298.4	267.6	90.9	287.4	252.8	87.9	271	236.6	87.1	-	-	-
Underwood . . . . .	138.3	118.3	85.5	165.2	141.6	84.5	172.6	150.1	87.3	169.1	145.7	86.3	-	-	-
Lincoln . . . . .	36.2	32.6	90.5	41.9	38.6	92.1	40.2	37	92	42.4	37.7	88.9	-	-	-
Jackson . . . . .	213.7	185.4	86.6	208	184.8	84.8	247.7	206.7	84.2	239.5	202.7	84.9	-	-	-
District No. 4 . . . . .	686.8	605.4	88.2	749.5	655.8	88.1	747.9	646.6	87.9	722	622.7	86.8	717.5	626.8	87.5
High . . . . .	249.9	224.7	89.9	238.6	216.7	90.8	226.1	203.4	89.9	217.8	199.5	91.6	253.2	232.7	91.9
Total . . . . .	2713.2	2444.6	90.8	2814.9	2544.8	90.9	2807.1	2550.6	91.5	2710.1	2439.6	91.5	2791.7	2540.9	91

## SCHOOL APPROPRIATIONS FOR 1879.

General Appropriations for Support of Schools . . . . .	\$72,150 00	
Received from the Dog Tax . . . . .	1,014 30	
	<u>73,164 30</u>	
Amount transferred to Repairs and Incidentals . . . . .	1,380 29	\$71,784 01
Amount paid to Superintendent . . . . .	\$2,700 00	
Amount paid to Teachers . . . . .	60,601 75	
Amount paid to Janitors . . . . .	3,968 00	
Amount paid to Secretary . . . . .	300 00	
Amount paid for Fuel . . . . .	3,806 01	
Amount expended . . . . .	<u>71,375 76</u>	
Balance unexpended . . . . .		\$408 25
Appropriation for Repairs and Incidentals . . . . .	\$8,000 00	
Amount transferred from General Appropriation . . . . .	1,380 29	
	<u>\$9,380 29</u>	
Amount expended . . . . .	<u>9,380 29</u>	
Appropriation for Evening School . . . . .	\$500 00	
Amount expended . . . . .	426 53	
Balance unexpended . . . . .		73 47
Appropriation for Industrial and Mechanical Drawing . . . . .	\$300 00	
Amount expended . . . . .	227 50	
Balance unexpended . . . . .		72 50
Appropriation for Conveyance of Pupils to and from the High School, . . . . .	\$900 00	
Amount expended . . . . .	850 00	
Balance unexpended . . . . .		50 00
Total balance unexpended . . . . .		<u>\$604 22</u>
Expenditures for 1879 . . . . .		\$82,260 08
Expenditures for 1878 . . . . .		83,208 63

ISAAC HAGAR, *Secretary.*





ANNUAL REPORT  
OF THE  
TRUSTEES  
OF THE  
NEWTON FREE LIBRARY,

NEWTON, MASS.,

FOR THE YEAR ENDING DECEMBER 31, 1879.



BOSTON:  
PRESS OF W. L. DELAND AND SON,  
Congress Building, 4, Post Office Square.

1880.







## BOARD OF TRUSTEES, 1879.

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### *AT LARGE.*

BRADFORD K. PEIRCE . . . . .	TERM EXPIRES 1884.
JULIUS L. CLARKE . . . . .	TERM EXPIRES 1883.
JAMES F. C. HYDE . . . . .	TERM EXPIRES 1882.
GEORGE H. JONES . . . . .	TERM EXPIRES 1881.
JOHN S. FARLOW . . . . .	TERM EXPIRES 1880.

### *FROM THE BOARD OF ALDERMEN.*

GEORGE D. ELDRIDGE . . . . .	TERM EXPIRES 1880.
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### *FROM THE BOARD OF COMMON COUNCIL.*

NATHAN MOSMAN . . . . .	TERM EXPIRES 1880.
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# ORGANIZATION FOR THE YEAR 1879.

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## *PRESIDENT.*

GEORGE H. JONES.

## *SECRETARY.*

GEORGE D. ELDRIDGE.

## *COMMITTEE ON THE LIBRARY.*

PRESIDENT, <i>ex officio</i> .	BRADFORD K. PEIRCE.
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## *COMMITTEE ON THE BUILDING.*

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## *SUPERINTENDENT.*

BRADFORD K. PEIRCE.

## *LIBRARIAN.*

HANNAH P. JAMES.

## *ASSISTANT LIBRARIAN.*

CAROLINE B. JACKSON.

## *JANITOR.*

JAMES J. TOWER.

# ORGANIZATION FOR THE YEAR 1880.

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## *PRESIDENT.*

GEORGE H. JONES.

## *SECRETARY.*

JULIUS L. CLARKE.

## *COMMITTEE ON THE LIBRARY.*

PRESIDENT, <i>ex officio</i> .	BRADFORD K. PEIRCE.
JOHN S. FARLOW.	JULIUS L. CLARKE.

## *COMMITTEE ON THE BUILDING.*

PRESIDENT, <i>ex officio</i> .	NATHAN MOSMAN.
JAMES F. C. HYDE.	JAMES R. DEANE.

## *SUPERINTENDENT.*

BRADFORD K. PEIRCE.

## *LIBRARIAN.*

HANNAH P. JAMES.

## *ASSISTANT LIBRARIANS.*

CAROLINE B. JACKSON.	MARIE L. CLAPP.
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## *JANITOR.*

JAMES J. TOWER.



## TRUSTEES' REPORT.

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*To his Honor the Mayor and the City Council of Newton.*

THE Trustees of the Newton Free Library have the honor of presenting for the year ending Dec. 31, 1879, the following Report :

The full and complete Report of the Superintendent made to the Trustees, and herewith submitted with their cordial endorsement, renders an extended one from them unnecessary.

The courtesy which has been extended to the Trustees by the city government hitherto, gives them confidence in presenting the necessities of the Library for the ensuing year, and in supplementing the Report of the Superintendent, by asking your special attention to some items of administration and expenditure.

### DISTRIBUTING AGENCIES.

The necessity and value of this method of placing the books within reach of all the citizens of our city, render necessary better accommodations at the points of distribution, and more frequent and systematic transit to and from those points. A proper system requires a daily distribution, which will require the time of a man with his team, at a cost, including the pay of those in charge at the agencies, of at least \$1,200 per year, whereas the present system costs \$400. The Trustees do not feel authorized to make a change which will require an addition to the appropriation asked for, of at least \$800, without an expression of approval by the city government.

## SHELF ROOM.

An increase of shelf capacity is quite necessary, and the Trustees would urge this requirement upon your early consideration. This need was anticipated when the Library was opened, and the Trustees then reported that the alcoves were so arranged that the shelf room could be doubled, and thus make room for some 30,000 volumes in all. The Superintendent now reports that we have 15,548 volumes, and that additional room is required as soon as consistent. A library worthy the name, must place upon its shelves new works as published, to a reasonable extent; its readers are on the alert for such books; and while there is much that should not be bought, the increase of that which is good, is material and necessary, and should be provided for. The Trustees are confident that no worthless, and few objectionable books are on its shelves, and that no circulating library has a larger proportional number of valuable works for reference or general reading than ours, and we desire that the youth, the adult, and those of mature age, can be sure of finding that which will interest and instruct upon any subject which is to them of special value.

No definite estimate has yet been made of the cost of such additions as are requisite, but approximately it may be stated at \$1,200.

## VENTILATION.

With the increase of numbers of persons in both the Library and Reading-Room, more gas is consumed, and the imperfect ventilation of the lower story has thus become a matter of serious complaint, and requires early improvement so far as is possible.

The Trustees have no special plan for the accomplishment of this difficult matter, and hope for the attention of the Committee on Public Property to it at an early day.

## INTERIOR ADMINISTRATION.

The reference of the Superintendent to the work of the Librarian is timely, and if his suggestions are acted upon, a large part of the work upon the preparation of new books for circulation, and upon catalogue work, must be performed by an assistant, so that Miss James can devote time to answering questions, and giving such help to the youth, and others, as they may desire in the choice of books, and which she is eminently qualified to give.

It is quite necessary also that some portion of her time should be given to the detail of the Superintendent's duties as it is quite too much to expect that he should take so much of his valuable time and labor from his professional duties. The increased expenditure for this purpose is included in the estimate for the ensuing year.

## WEST NEWTON ATHENÆUM.

The correspondence had with the West Newton Athenæum, to which the Superintendent refers, has not been resumed since the subject was referred back from the city government to the Trustees, "with full power," nor are the Trustees aware that the Athenæum desires any further negotiation.

As the Library of the Athenæum would be a large and valuable accession to the City Library, and as in the judgment of the Trustees of the latter, the union of the two would be of advantage to both, the Trustees of the City Library were very desirous that, as in the case of the Newton Centre Library Association, such an union might be consummated. As, however, the wishes of the Athenæum were in effect to make it a Branch Library, this did not, and does not now seem to come under our legitimate action without some positive instruction from the city government. Should the Athenæum desire at any future time to make such a union as comes within the sphere of duty of the Trustees of the City

Library, the latter do not doubt their ability to so arrange for an interchange of books, as, that the Athenæum shall be secure in the full benefit of the City Library.

The Trustees regard it as a duty to call the attention of the city government to the true function of a public library, which is demonstrated by those who are making the subject of complete education a study, and which has been specially voiced at the Conventions of Librarians and educators referred to by the Superintendent. The public library should no longer be regarded as a show-case of books, nor a huge collection of everything printed, to feed morbid appetites, but the place where can be found everything in literature which will interest, instruct, and educate our youth for the duties of life, and afford to mature minds aid in culture and improvement; when the public library meets such requirements it becomes the complement and supplement of the public school and other educational institutions. The Trustees believe the Newton Library as fully meets these conditions as any one of its size and age in our country, and that under the fostering care of the city government it will steadily increase its present usefulness; with this end constantly in view, the Committee for the purchase of books, have selected, and will continue to select, the best class of reading, and such works for reference as are most valuable to the professions, to students, and to mechanics and artisans. If in accordance with this estimate of the true function of the Library, the appropriation asked for seems excessive, the Trustees desire that a due regard may be had for the foregoing considerations.

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#### ALDEN SPEARE FUND.

The income from this fund has been, up to Dec. 31, 1879, \$79.18, of which there has been expended \$70.45 in accordance with the conditions of the donor.

The Trustees have carefully estimated the amount of appropriation necessary for the ensuing year, and have fixed



upon the lowest sum which will meet the requirements, and respectfully ask that \$7,500 be appropriated.

All of which is respectfully submitted.

GEO. H. JONES,

*President Board of Trustees.*

# ESTIMATE IN ITEMS FOR 1880.

Salaries . . . . .	\$3,300
Reading Room . . . . .	350
Incidentals . . . . .	225
Repairs . . . . .	75
Printing, etc. . . . .	70
Binding . . . . .	275
Gas and Coal . . . . .	700
Agency express . . . . .	400
Blanks, etc. . . . .	120
Furniture, etc. . . . .	100
Postage, etc. . . . .	15
Books . . . . .	2,000
Total . . . . .	<hr/> \$7,630

## SUPERINTENDENT'S REPORT.

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*To the Trustees of the Newton Free Library.*

GENTLEMEN:—In submitting to you, according to the requisitions of an ordinance of our city, an annual report for the year just ended, I must express my regrets that my able predecessor, Mr. Frederick Jackson, who has so efficiently and skilfully managed the Library for the previous five years, and had acquired so much invaluable experience, felt called upon to resign the office of Superintendent. My many other duties rendered my acceptance of the position, otherwise grateful to my tastes and in the line of my studies, a matter of great reluctance, and have prevented my meeting my own apprehension of what so responsible a supervision requires, and ought to receive, at the hands of the executive officer.

There have been few incidents to distinguish this year from the previous one. The administration of the Library has been attended with no uncommon difficulties. The only change in its personal force has been the addition of Miss M. L. Clapp,—a lady of considerable experience in Library work—who has aided in the preparation of the catalogue, and will be able, hereafter, to relieve the Librarian of most of the office details, and permit her to give more of her personal attention to the patrons of the Library.

A favorable change, meeting the wishes of those residing in Newton Centre, has been made in the agency of that ward, and the agency at North Village, which had been closed for a year, has been re-opened, and is now successfully administered.

The Auburndale Book Club, which ceased to keep up its

organization after the establishment of the City Library, forwarded its remaining books—about one hundred and fifty—through Rev. Milton P. Braman, D. D. and G. B. Knapp Esq., as a donation to the Free Library. These volumes have been added to our list, or exchanged for others, where they were duplicates.

We have been in often consultation, during the year, with the Trustees of the West Newton Athenæum, hoping to secure some satisfactory arrangement by which those of our citizens heretofore largely dependent upon that Library, might be able to avail themselves more fully of all the advantages of the Free Library. We trust ere long, such a plan mutually advantageous to the proprietors of the Athenæum and the Trustees of the city institution will be devised.

During the previous year we commenced the preparation of an exhaustive card catalogue, which would open, as a full index, all the treasures of the Library to its patrons. When this is once completed it can be readily printed, and thus supply a full catalogue up to the time of its issue, of the books, their authors, and their subjects. But as this work could not be hurried, and the previous catalogue and bulletins were far behind the later acquisitions of the Library, and even these were exhausted, a very imperative necessity was felt, especially for the wards where agencies supply the books, for a new catalogue, at as early a day as possible. My predecessor referred to an important work of this description—a subject catalogue—embracing five thousand titles of the best works in all departments of literature, then in course of preparation by the American Library Association. This work, when completed will be an admirable index, especially serviceable to new libraries, just about to fill their shelves; but the necessary delay incident to its preparation and publication, and the fact that when completed it would contain books that we have not yet obtained, and leave as many others uncatalogued upon our shelves, assured us that it would not meet the existing and pressing demand for some adequate

key to unlock at once our own stores of literature, to our citizens throughout the different wards. At the request, therefore, of the City Council, for which an appropriation was made, the Librarian has prepared a popular catalogue of all the books, under their author's names, arranged also under subjects, according to the latest suggestions of the most experienced of our public Librarians. The work is now rapidly passing through the press, and will be ready for delivery in a few weeks. It is not a complete catalogue of subjects, but it is so thoroughly classified that little difficulty will be found in discovering, by its aid, the contents of our shelves, upon any given theme, and it will prove to be, we think, one of the best of its kind. Where further information than it affords is needed, recourse can be had to the card catalogue, in the Library, which will move rapidly on to its completion. This already embraces all the books bought within two years, and a considerable portion of the previous volumes. This catalogue, as those that have examined it understand, is really quite a full index to all the books in the Library, with the exception of periodicals. While ordinary catalogues have only one entry for a book, this has as many as the volume contains distinct subjects. These cards, under their appropriate letters, are placed in drawers, alphabetically arranged; the whole forming a large cabinet, accessible to visitors in Edmands Hall. The Librarian is always ready to explain the nature, and the mode of availing one's self of its advantages. The new index to periodical literature, now in preparation under the supervision of Mr. William F. Poole, of the Chicago Public Library, aided by a large number of Librarians in England and America, is now approaching completion, and is to be soon published by Messrs. Houghton, Osgood, & Co., of Boston. It will bring the work down to January 1, 1880. This will open up to eager students a vast storehouse of short, but carefully prepared essays upon all the leading subjects which have been under discussion throughout Christendom during the last quarter of a century.











Our Library is quite rich in this material, and opportunities for increasing this department are not overlooked.

During the year we have been able to secure larger accessions to the Library than during any year since it came under the care of the present Board of Trustees, and the books obtained have been chiefly of the highest character, while the demands for popular and juvenile reading have not been forgotten. With the income of the Speare Fund, contributed by Hon. Alden Speare, a very fine collection of volumes, according to the terms of the gift, "for the Promotion of Manufactures and the Mechanic Arts," have been purchased, as the foundation of a broad selection ultimately, of such important works. During the year, by purchase, 1,516 volumes have been added to the shelves of the Library, and 173 by donations. Two missing books have been restored ; making the total accessions 1,691. There has been but one volume lost the present year, and 117 worn out by long use ; which, subtracted from the above figures, leave our net increase at 1,573. Last year the actual increase was 1,039. The total number of volumes now in the Library is 15,548. It is quite a singular fact, that the first book lost from our shelves, Sept. 5, 1867, has been returned within a few weeks. It was found in the Providence railroad station, laid away and forgotten by the gentleman discovering it, until the present time. When it came to light, it was at once forwarded to the Library.

Among the donors to the Library during the past year, we notice the gift of 17 volumes by Mr. S. E. Decker, 13 by Mr. John T. Bancher, 4 from Rev. G. W. Shinn, and the same number from A. C. Fearing jr., 3 from Mr. Frederick Jackson, and 2 each from I. F. Kingsbury, Samuel P. May, and W. W. Keith. A number of gentlemen have contributed single volumes ; a donation of books was received from Mrs. J. W. Hayes, and 29 have been received from the Superintendent of the Library. Valuable Congressional documents have been secured through the kind offices of Ex-Governor Claflin.

Of the additions made, 381 are classified under the head of Prose Fiction and Juvenile Works; 213 as Essays, Poetic, and Dramatic volumes; 92 Literary periodicals; 134 Geographical volumes and Travels; 160 Biographical and Religious works; 170 Historical; 199 volumes upon the Natural Sciences; 31 upon Political and Social Science; and 120 volumes for the Reference library — a division of subjects which, we think, must strike our citizens as giving a fair proportion to the various departments of the Library. We have kept abreast of the current publications of the day, and have provided duplicates where volumes of special interest have been issued.

It is an interesting and encouraging fact that we continue, slowly indeed, to decrease the average of fictitious reading among our patrons; and this is not to be attributed to a lack of provision of the best class of these works, but to a growing taste in the community for something more substantial. The percentage of novels, which in the majority of public libraries reaches about seventy-five, on a scale of one hundred, falls with us this year as low as 65.3, and during some months has ranged at 62.5. As a confirmation of the emphatic remarks, made at the late Conference of Librarians by C. F. Adams, jr., Esq., as to the value and popularity of the bound volumes of Harper's Monthly Magazine, in a public library, we can testify that there is scarcely a work upon our shelves that preserves such a hold upon our young readers as a set of these magazines, and many of the volumes are fairly worn out in honest service.

The additions of books during the year have about filled all the available space, and portions of our volumes have already to be placed upon shelves in a storage room adjoining the Reading-Room. It will be indispensable that we have, at an early day, an increase of shelving-room. A beautiful design by A. B. Meacham, Esq., which has been submitted to the Board, shows how an additional line of alcoves, above the present, on the west side of Edmands Hall, can be constructed

without changing any of its permanent features, or, in the least, detracting from its graceful appearance, or injuring the light of the alcoves. If this plan were carried out, our shelving-room would be increased by about one-half of the present capacity.

During the year the appreciation of the Reading-Room has been shown by a marked increase of its visitors. Its files have been sustained, and new periodicals have been added. It now affords a wide opportunity for the perusal of the issues of the newspaper press from all parts of the country, and of the leading English and American monthlies and quarterlies. Several German, French, and Spanish periodicals have also been regularly supplied to its files by the Superintendent. We have striven to meet the suggestions of our citizens as to the hours during which it was desirable to have this room accessible to the public. Attention is now being given to the question of its ventilation, which has been the chief occasion of complaint in this department during the fall and winter.

The Library and Reading-Room have been open every day during the year, with the exception of the Sabbath and legal holidays. The circulation of books, as last year, has fallen off several thousand volumes. It is a singular fact that the same limitation of circulation has occurred in other public libraries. Much of this, with us, however, is due to our inability to supply catalogues and bulletins of our late very interesting purchases. This has been specially true in the wards of the city supplied by agencies. From these constant and earnest inquiries have come for lists of our new books. Some of this falling off, doubtless, arises from the fact that we have not loaded our shelves with the class of sensational novels, new and old, which find such an amazing circulation in the libraries where they are provided for their patrons. We do not consider this an occasion for lamentation, while it is a source of congratulation that the circulation of substantial works has largely increased.

At the late Conference of Librarians, held in Boston, last July, Dr. James Freeman Clarke remarked, at the opening of a short address, that, in his youth, "a library was regarded as a prison where books were to be confined. The Librarian was the Jailer answerable for their safe-keeping; readers and borrowers were regarded with distrust, as those who might injure the books, or, perhaps, never return them. All sorts of precautions, therefore, were taken to keep these pestilent borrowers at a safe distance." But now, he rejoiced that he had been permitted to listen to Librarians who think it a part of their duty to encourage readers to take out books, and to help them to find what they want. Referring to this sentiment Prof. W. P. Atkinson, speaking on the same occasion, remarked: "There cannot be a doubt that we are discovering along with their immensely increased powers of usefulness there is coming a corresponding enlargement of capacity for mischief; that to make a working library, something more — much more — is necessary than simply to pile books together; that libraries cannot be left to run themselves any longer; that with enlargement of sphere and increasing complications of machinery there have come increased responsibility, and a vastly increased demand for skill, and knowledge, and judgment in the management of so potent an instrumentality." It was the growing apprehension of this responsibility that occasioned, some four years since, the calling of the first Congress of Librarians for mutual consultation and for the arrangement of annual national or international sessions. The second meeting of this body was held in Manchester, England, and awakened much interest. Our Library was well represented on the occasion by our late efficient Superintendent. Full reports of the proceedings and the papers read were published, forming a very valuable volume. The third session of the Conference was held, as noticed above, in Boston, last summer, and was by far the most interesting and important of them all. It drew to its sessions the leading Librarians of the country, many of the Trustees of public libraries, and a

large body of the most intelligent literary men and women of the vicinity. The sessions, during portions of four days, were crowded with practical essays upon the various questions relating to the construction, ventilation, management, influence, means of increased usefulness, and possible perils of public libraries, and, as opportunity offered, with vigorous and instructive discussions. The testimonies of persons connected with the practical workings of these institutions awakened in the minds of intelligent listeners a fresh sense, both of their possibilities of usefulness, and their liabilities of becoming a positive intellectual and moral injury to the community. By the facilities which a carelessly administered library offers for the unlimited reading of light, emasculating, and even depraving literature, it may become a curse to the young people in its vicinity. Extraordinary statements were made by Librarians of the number of novels, of the poorest classes, taken out, week after week, (more than one a day in some instances), and the evil results to be expected from such a misuse, or rather positive abuse, of these free institutions.

Many suggestions were made as to the best measures for correcting this very serious evil, thus perpetuated at the public expense. Charles Francis Adams, jr., proposed to place the axe at the root of the tree, and to provide no works of fiction for the free library. Let those, he urged, who wish for novels purchase them for themselves, as they are obliged to do, if they desire other luxuries. But this radical step would both cut off a large class of readers, who, it is found, are won to the library by works of the imagination, but come gradually, under proper directions, to acquire a taste for more serious, and not less entertaining works, and also would shut out from the library shelves a very large portion of really improving and inspiring literature—the masterpieces of the leading minds of their times. The evil is not beyond correction, although the public character of the institution renders its close supervision somewhat delicate and difficult. There must be a careful sifting of this vast body of the litera-



ture of the imagination. Our Library in Newton has never admitted to its shelves the works that have chiefly fallen under the sharp criticism of conscientious educators and guardians of the young. We have not on our list the sensational works of fiction which, in other public libraries, exceed all other books in their circulation. Where the writer of a novel is not known by the Superintendent, Book Committee, or Librarian, especially if a French translation, the work is submitted to a judicious reader before being placed upon the list; particularly is this true in the instance of juvenile books. Much of this important service has been rendered by ladies of our city, who merit the thanks of the community for the performance of this laborous, but very useful task.

Our school teachers can render valuable aid in directing the reading of their pupils. Much interest was awakened by Mr. R. C. Metcalf, Master of the Wells school, Boston, and by Mr. S. S. Green, of the Worcester Public Library, at the late Conference, by their very practical suggestions as to the relation of the public school to the public library. The former showed how successful had been his endeavors, with the aid of the Librarian of the City Library, to direct the reading of his pupils.

One of our earnest city pastors — a member of the School Board — has imposed upon himself the task of calling the attention of our young people, through the columns of the local paper, to the attractive and instructive works that have been, from time to time, added to the Library. Such a service cannot be too highly appreciated.

But, after all, we must press upon parents a responsibility which falls chiefly upon them, as the immediate guardians of their children, of watching over their reading. There is no less occasion, but rather more, for them to consider carefully the character and influence of the books of their children, than that of the companions with whom they associate. The influence of the former is more subtle and permanent, and the consequences are often more serious. By family reading a taste

for works of a higher character can be readily formed and nourished.

We do not shrink, however, from the portion of responsibility that falls upon the official management of the institution. By securing as we hope to do, more leisure for the Librarian, she will be enabled to give personal attention and advice to the young people that avail themselves of the opportunities of the Library. By conspicuous bulletins we now call attention to the fresh works of travel, of history, of science, and biography, which we are constantly adding to our shelves. It is one of the most encouraging sights to an intelligent well-wisher of his race, nearly every evening that it is open, to see the different tables in Edmonds Hall surrounded by youths of both sexes, consulting books of reference, or examining with keen pleasure some of the many illustrated volumes with which the Library is now so well supplied.

If the Free Library is indeed becoming, as it is often called, "the People's University," succeeding and supplementing the public school, gathering into it all ages, and every variety of character, one of the great positive defences against the saloon and the gambling hall, and a powerful inspiration to the intelligence and good morals of the community, no painstaking or necessary expense should be spared to save it from all its abuses, and to secure to it the highest abilities and most conscientious faithfulness in its administration. We have reason to believe that the Free Library of Newton is largely defended from demoralizing elements, and is continually growing in usefulness and in power for accomplishing good in our community.

The Superintendent is happy to bear testimony to the faithfulness and courtesy with which the Librarian and her assistants have administered the internal details of the Library, and the cheerfulness and ability with which they have met the constant demands upon their skill and patience.

I would also speak of the ready attention which the Com-

mittee upon Public Property of the City Council has given to any calls that have been made for repairs or improvements in the Library building.

I have the honor, gentlemen, with sentiments of sincere respect, to submit to you the above details of the conduct of the Free Library for the past year.

BRADFORD K. PEIRCE.

*Superintendent.*



## APPENDIX.

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### A.

RECEIPTS.	1879.	1878.	1877.
Dec. 31.			
Municipal Appropriation . . . .	\$7,000.00	\$7,500.00	\$6,000.00
Fines, Bulletins, Catalogues, etc. .	286.08	327.98	322.09
Cash on hand at last report . .	32.76	7.96	1,337.61
	\$7,318.84	\$7,835.94	\$7,659.70

## B.

EXPENDITURES.	1879.	1878.	1877.
Salaries . . . . .	\$2,601.60	\$2,698.26	\$2,480.58
Reading Room . . . . .	302.65	370.20	367.82
Incidentals . . . . .	203.49	225.87	353.39
Repairs . . . . .	59.39	23.28	211.10
Furniture and Fixtures . . . . .	111.98	741.08	41.04
Printing and Advertising . . . . .	59.51	59.83	33.60
Binding . . . . .	215.05	322.78	290.09
Books . . . . .	2,518.52	2,013.80	1,378.90
Light and Fuel . . . . .	674.85	760.55	684.55
Agency and Express . . . . .	377.07	310.78	304.35
Blanks and Stationery . . . . .	115.17	130.18	177.88
Postage account . . . . .	13.37	13.64	37.42
Total Expenditures . . . . .	\$7,252.65	\$7,670.25	\$6,360.72
Balance wth City Treasurer \$36.21			
at the Library . . . 29.98			
Total balance . . . . .	66.19	165.69	1,298.98
	\$7,318.84	\$7,835.94	\$7,659.70

## C.

CIRCULATION.	1879.	1878.	1877.
Number of days the Library was open .	307	308	256
of holidays the Library was closed	6	5	5
of other week days the Library was closed . . . . .	...	...	52
of volumes delivered for home use	77,437	81,030	68,023
Average daily use . . . . .	252	263	265
Largest daily use, Feb. 24 . . . . .	515	678	576
Smallest daily use, May 30 . . . . .	23	32	5
Number of books lost, and not paid for .	1	11	10
of books worn-out and withdrawn	117	168	65
of volumes re-covered . . . . .	11,481	13,276	12,279
of volumes bound . . . . .	482	544	298
of names registered during the year . . . . .	849	938	682
Total number of names registered . . .	8,624	7,775	6,837

## D.

ACCESSIONS.	1879.	1878.	1877.
Increase by purchase . . . . .	1,453	982	869
by gift . . . . .	173	130	111
by binding pamphlets . . . . .	1	48	10
by binding periodicals . . . . .	62	55	82
Number of missing volumes restored since last report . . . . .	2	3	
Total accessions for the year . . . . .	1,691	1,218	1,072
Number of volumes missing or withdrawn since last report . . . . .	118	179	75
Actual increase . . . . .	1,573	1,039	997
Number of volumes in the Library as last reported . . . . .	13,975	12,936	11,939
Total number of volumes in the Library . . . . .	15,548	13,975	12,936
Increase of pamphlets by purchase . . . . .	4	17	5
by gift . . . . .	15	103	23
Accessions for the year . . . . .	19	120	28
Number of pamphlets as last reported . . . . .	65	61	64
	84	181	92
Number of pamphlets bound since last report . . . . .	2	116	31
of pamphlets on hand . . . . .	82	65	61
of newspapers subscribed for . . . . .	36	34	34
of newspapers given . . . . .	11	12	9
of magazines subscribed for . . . . .	30	24	20
of magazines given . . . . .	2	1	1
Total number received . . . . .	79	71	64

## E.

CLASSIFICATION, GROWTH, SIZE, AND USE.	Vols. added during the year.	Total num- ber of vols.	Vols. issued during the year.	Per cent of Circulation.		
				1879.	1878.	1877.
<i>Literature.</i>						
Prose fiction and juvenile read- ing . . . . .	381	4,087	50,583	65.3	67.36	71.38
Essays, poetry, and drama . .	213	1,901	6,335	8.2	8.41	8.27
Literary periodicals . . . . .	92	1,085	2,148	2.7	2.01	1.91
Foreign literature . . . . .	—	438	298	.4	.40	.39
<i>History.</i>						
Geography and travels . . . .	134	1,418	6,258	8.2	7.43	6.95
Biography . . . . .	160	1,403	3,796	4.9	4.27	3.68
History . . . . .	170	1,454	3,380	4.3	4.13	3.02
<i>Arts and Sciences.</i>						
Natural science and industrial arts . . . . .	199	1,240	3,798	4.9	4.67	3.28
Political and social science . .	31	783	300	.4	.40	.22
Theology . . . . .	73	689	368	.5	.79	.50
*Reference Library . . . . .	120	1,050	173	.2	.08	—
Accessions for the year . . .	1,573					
Number of volumes in the Li- brary . . . . .		15,548				
Circulation for the year . . .			77,437			

\*Represents books loaned for home use by *special* permission.

## F.

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Appropriations for Catalogue . . . . .	\$1,000.00
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## EXPENDITURES ON CATALOGUE.

Salary Marie L. Clapp . . . . .	\$275.00	
Paid for catalogue cards . . . . .	5.74	
Rand, Avery, & Co., printing and binding . . . . .	672.50	
		\$953.24
Balance with Treasurer . . . . .	46.76	
		<hr/> \$1,000.00

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City of Newton.

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# ANNUAL REPORT

OF

THE CHIEF ENGINEER

OF THE

# NEWTON FIRE DEPARTMENT,

For the Year ending December 31, 1879.



BOSTON:

T. W. RIPLEY, PRINTER, 138 CONGRESS STREET.

1880.





# R E P O R T .

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*To the Honorable, the Mayor, and Board of Aldermen :—*

IN accordance with the requirements of the ordinance, I beg leave to submit my first Annual Report of the condition of the Fire Department of this city, for the year ending December 31, 1879.

I have embodied, in this Report, all matters pertaining to the department, together with a list of officers and members, salaries paid, inventory of property, location of Fire Alarm stations, hydrants and reservoirs, account of fires, alarms, losses, and insurance on same, so far as could be ascertained, with such other items as may be of interest to your honorable body, and to the citizens of Newton.

The department, the past year, has shown itself competent to meet any and all emergencies to which it has been called upon to respond. With a large increase of incendiary fires, the losses are less than for many preceding years, due, in a great measure, to the prompt and efficient service of this department.

With the large territory to which the department is called upon to afford protection, the liability to total loss in the distant sections is very great, and for which this department is no way responsible. Lack of water facilities, or, if any, so far removed as to necessitate long lines of hose and decreased pressure, together with the distant location of fire and alarm stations, requires the most energetic efforts on the part of the Fire Department, with but small hopes of success. With the extension of the water mains, additional hydrants, and Fire Alarm stations, the department will be enabled to render more efficient service in these localities.

It is very necessary that the full working force of the department be kept up. Days and weeks may pass, and their services not be required, still it is imperative that the department be "Always Ready."

It will be for the interest of the City Council, and the citizens generally, that all proper means be furnished to keep the department up to its present standard.

Large sums of money are invested in apparatus and equipments, and in keeping the several stations where they are located, in order. It should be a matter of personal interest, to the tax-payers and the citizens, to visit the several stations, that they may see how their money is invested, at the same time encourage the members by their presence, and show them that their services are appreciated.

The several stations where permanent men are located, will be open each day (Sunday excepted), from 10 A.M. until 10 P.M. ; during these hours visitors will always be welcomed, and every courtesy consistent with the service will be shown them.

#### INCENDIARY FIRES.

The frequency of fires of undoubted incendiary origin, the past year, is a matter of grave importance. That many of these fires can be traced to over-insurance, there seems no question, so long as the premiums are promptly paid ; the matter of insurance is neglected, and only brought to notice through the investigations of fire department officials in ascertaining the cause of fires. While the promptness of the department is proverbial, still, every care and precaution should be exercised to guard against fire.

#### LOSSES AND INSURANCE.

For fires, losses, and insurance, which will be found to compare favorably with previous years, I refer you to the printed table of the same.

#### MANUAL FORCE.

The manual force of the department consists of a Chief Engineer, one Assistant Engineer, one Secretary, one Fire Alarm Operator, forty-five members of engine companies,

including Engineers and Drivers ; thirteen members of Hook-and-Ladder Company, twenty-four members of Hose Companies, making a total of eighty-six men.

#### APPARATUS.

The apparatus of the department consists of three steam fire engines, — two built by the Amoskeag Manufacturing Company of Manchester, N. H., one by Hunneman & Co. of Boston ; seven four-wheeled hose-carriages, — four built by Hunneman & Co., two built by the Amoskeag Manufacturing Co., one built in Philadelphia, — the hose carriages carrying five thousand feet of hose ; one Hook-and-Ladder Truck, built by Bulkley & Merritt, New York.

#### ENGINEERS.

The several engines are in charge of skilled mechanics, and all repairs the past year have been made by their respective engineers.

#### DRIVERS.

The drivers permanently employed are thoroughly competent and reliable. No accident of any kind has occurred to either horses or apparatus, while in their charge, and the wisdom for the continuance in the service of such employees cannot be questioned.

#### UNIFORM.

For the better appearance, and increased efficiency of the permanent force, I would recommend that they be uniformed.

#### PERMANENT DRIVERS.

The necessity of having permanent drivers for the hose carriages, and particularly those attached to the engines, is obvious.

The engines leave their houses immediately on receiving an alarm, while the hose carriages are delayed until a member comes in from the street. In case of day fires, this has proved a serious drawback. To obviate this, and for the increased efficiency to be gained, I would recommend the appointing of permanent drivers for Hose Carriages 1, 2, 3, and 4.

## CALL MEMBERS.

The call members, those who do duty only in response to an alarm, have, as a rule, rendered a fair service the past year. But, as these members are employed in various capacities, and are scattered throughout the city, the service must of a necessity prove unreliable. Instances have occurred where employers have objected to their men leaving work in response to an alarm; situations, even, have been endangered from these causes, all of which tend to seriously cripple our working force during business hours.

Good men for this especial service are imperative, none other should be accepted.

## FIRE ALARM TELEGRAPH.

This important auxiliary to the Fire Department, under the management of G. W. Ulmer, as operator, has performed its duties with unvarying regularity, and to its efficiency is due in a great measure the successful work of the department.

## THE OPERATOR.

The operator in charge, although paid but a nominal sum, has devoted his whole time to the service. The result has been, that this branch of the department has never been in such complete working order since its introduction.

Our wires, as located, traverse streets thickly lined with trees, which prove fruitful sources of trouble in stormy weather; all disarrangement of the lines, either day or night, necessitates immediate attention and repairs. During the tornado of last July, the wires were seriously damaged and disarranged, requiring the most diligent and persistent efforts, until a late hour, before all parts of the city were again connected.

The liability of the city, in case of accident, resulting from defective poles, or broken wires, cannot be questioned. That this most important branch of the service may be kept up, I would recommend that the operator be paid a reasonable sum, and required to devote his whole time to its interest.

## ADDITIONAL FIRE ALARM STATIONS.

With an area of seventeen and one-half square miles of territory, our twenty-two (22) Fire Alarm stations are entirely inadequate to its proper protection. More stations are needed, and should receive the early attention of the City Council.

Additional striking apparatus is needed in Ward Four (4) at Newton Lower Falls. I would recommend the placing of a steam whistle upon one of the mills at that place, and connecting the same with the Fire Alarm. This can be done at a less expense than a bell and fixtures, and I am satisfied will prove as satisfactory. I would recommend that the poles, used for the fire alarm wires, be painted, as a matter of preservation. I would also recommend that the Signal Stations, and, when placed on poles, the poles also, be painted red, that they may be more readily located in case of fire.

## HYDRANTS.

The Hydrant service, so far as it has been extended, has proved an invaluable aid. In many sections, however, the lack of water-mains, and, in others, the scarcity of hydrants, still demands the service of all our present apparatus.

## STAND-PIPES.

The attaching of Stand-pipes to the hydrants, for the use of the watering-carts, has proved a hindrance to the fire service. I would recommend their immediate removal.

## RESERVOIRS.

The Reservoirs which still remain in good repair should be retained, particularly those in Wards One and Seven. I would suggest the advisability of said reservoirs being connected with the street mains, through a four-inch supply, with a shut-off-gate, so located as to be easily accessible in case of need: with this for a supply, two or more engines can be concentrated at these points.

## HOSE.

The department has in use, at the present time, twelve thousand nine hundred feet of hose, — nine thousand nine hundred and fifty feet of leather, two thousand nine hundred and fifty feet of cotton hose (rubber-lined). Of the leather hose, twenty-six hundred feet is unfit for severe service, and should be replaced with new hose at the earliest opportunity.

Within the past few years, most of the large cities and towns have adopted the cotton (rubber-lined) hose; their experience having demonstrated that the many good qualities which it combines, such as strength, lightness, durability and cleanliness, recommends this grade of hose as the most economical to purchase.

The experience of this department with this hose, covers a period of nearly three years; during that time it has given the best of satisfaction, but one piece having proved defective under a severe pressure.

Nothing tends to demoralize the earnest efforts of the department so much as the bursting of hose at a critical moment. For this reason alone, the best hose to purchase is that which meets the requirements of our service in all emergencies. Hose that fails at a pressure of one hundred pounds will not meet the wants of this department. The testing of hose below that standard, will invariably prove costly experiments in cases of urgent need.

The further purchase of twenty-six hundred feet of hose will be necessary to meet the requirements of the department for the coming year.

## CHEMICAL ENGINES.

The experience of the town in Chemical Engines was such, that for many years they have been considered of little practical utility. The many improvements, however, which have been made in these engines, and the wonderful success which they are meeting with, in all the large cities and towns, throughout the United States, most certainly com-



mend them as one of the most important adjuncts to a Fire Department. From personal observations in departments where these engines are used, and the wonderful celerity with which they can be placed in service, cannot but suggest the advisability of their adoption in this city.

Fires have occurred the past year, out of water limits, where, for the lack of one of these engines, the buildings have proved a total loss; in other cases, serious loss has resulted from water, which could have been avoided, had a Chemical Engine been available. I would suggest the advisability of purchasing a double tank engine of the above description, and the placing of the same in the house now occupied by Hose Four (4), and the return of that apparatus to Auburndale. With the placing of one of these engines in service, a portion of the new hose called for can be dispensed with.

#### HOUSES.

The several houses of the department were carefully inspected by the Committee on Public Property, and long-needed repairs and alterations were, upon their recommendation, authorized by the City Council. The stalls in the house of Engine Two were changed to face the apparatus; the sleeping accommodations in this house are not what they should be. I would respectfully call the attention of the City Council to the changes required at this house, as recommended by my predecessors in this office. The stalls in the house of Hook-and-Ladder No. One should be changed to face the apparatus, as now arranged in the other houses, excepting the house of Engine One, where this change is necessary, but impracticable, owing to a portion of the building being occupied by the police. I would recommend that the police be provided for in some other locality, and this building devoted to the requirements of the fire service. With the exception of the house of Engine Three, which will require a small outlay for painting, the buildings are in excellent repair.

While recognizing the necessity for strict economy in the expenditures of this department, still the apparatus and equipments must not be allowed to deteriorate; neither should necessary improvements be neglected.

## NEWTON FIREMEN'S RELIEF ASSOCIATION.

This Association was organized August 2, 1879, for the purpose of affording relief to such members of the Fire Department as may be injured in health or limb while in the discharge of their duties as firemen.

The amount of funds now in the possession of the Association is \$312.00.

But one member of the Association has been a recipient of aid the past year; foreman S. E. Wetherbee of Hook-and-Ladder No. One, from sickness, caused by exposure at the Rowe Street fire in May, was granted five months' relief.

It is hoped that our citizens will encourage the members of the department, and help them place this Association on a firm basis financially, with such donations, no matter how small, as they may feel disposed to give. The compensation received from the city is small; the members in moderate circumstances, with the liability to accident or sickness frequent,—in either case resulting in extra hardship to a deserving class of men.

## ACKNOWLEDGMENTS.

I desire to express my personal acknowledgments to His Honor the Mayor, for his uniform courtesy and interest manifested at all times, in matters pertaining to this department.

To the Honorable City Council, for the prompt attention given to all measures recommended for the benefit of the department.

To the Joint Standing Committee, Aldermen Barnes and Keith, Councilmen Kimball, Ellison, and Barton, for their cordial support and endorsement.

To Assistant Engineer Bemis my thanks are due for his earnest efforts and hearty co-operation, and to the officers and members of the several companies for the promptness and zeal displayed in the performance of their several duties.

To City Marshal Hinds, and his officers, for prompt attendance, and valuable services.

To the Superintendent of Streets.



To the Superintendent of Water Works. To the City Clerk, who, as Secretary to the Board, has rendered valuable assistance.

To the Boston Board of Fire Commissioners.

To Chief Engineer Green, and assistants, Flanders, Fernald, and Colligan, for courtesies extended.

And to all others who have, in any way, rendered this department service, these acknowledgments are tendered.

Respectfully submitted,

H. L. BIXBY,

*Chief of Fire Department.*

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## S U P P L E M E N T.

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### FINANCIAL STATEMENT.

Salaries, including engineers . . . . .	\$12,970.72
Keeping of horses . . . . .	3,192.00
Water rates for house supplies . . . . .	209.00
Gas at houses . . . . .	338.70
New hose . . . . .	1,000.00
New truck . . . . .	700.00
New ladders . . . . .	300.00
New horse, Hose 7 . . . . .	175.00
Repairs, supplies, &c. . . . .	2,725.27
Labor, stock, and supplies, — Fire Alarm . . . . .	1,000.00
	<u>\$22,610.69</u>
Appropriation . . . . .	\$22,000.00
Amount expended . . . . .	\$22,610.69
Credit for sale old material, &c. . . . .	17.78
Amount expended in excess of appropriation . . . . .	<u>\$592.91</u>

## APPENDIX.

## JOINT STANDING COMMITTEE ON FIRE DEPARTMENT.

ALDERMEN.—F. G. BARNES, W. W. KEITH.

COUNCILMEN.—J. W. KIMBALL, W. P. ELLISON, C. C. BARTON.

## BOARD OF ENGINEERS.

NAME.	AGE.	RANK.	RESIDENCE.	SALARY PR. ANNUM.
H. L. Bixby.	37	Chief Eng'r.	Margin Street.	\$1050 00
W. Bemis.	30	Ass't do.	Centre & Beacon.	300 00
E. O. Childs.	32	Secretary.	Richardson St.	100 00

## PROPERTY IN CHARGE OF CHIEF ENGINEER.

1 horse,	1 hand lantern,
1 harness,	1 dark “
1 wagon,	1 whip,
1 sleigh,	1 Johnson pump,
1 buffalo robe,	1 hammer,
1 street blanket,	1 monkey wrench,
1 weight,	2 pairs plyers,
1 13-inch gong,	50 feet $\frac{3}{4}$ rubber hose.
1 headlight,	

*Store Room.*

100 lbs. waste,	2 telephones loaned by comp'y,
1 doz. sponge,	18 galls. sperm oil,
5 pr. curry combs (inferior),	4 “ polish,
2 “ “ “ (new),	1 gall. castor oil,
1 doz. harness soap,	3 brooms,
6 pkgs. matches,	9 hat tips,
2 pr. line snaps,	2 coats,
1 New Haven hitch,	1 pr. lanterns (old).
1 pr. frames,	1 duster,
15 fire alarm keys,	6 department badges,
1 set department dies,	10 lbs. Castile,
1 department badge die,	2 doz. soap,
3 boxes wheelgrease,	4 brushes,
3 pkgs. emery cloth,	3 H. hooks,
2 call bells,	25 lbs. packing.









# NEWTON FIRE ALARM TELEGRAPH.

HEADQUARTERS CITY BUILDING, WILLOW ST., WARD 6.

NAME.	AGE.	BADGE.	RANK.	RESIDENCE.	SALARY PER ANNUM.
G. W. Ulmer.	29	1	Operator.	Lyman Street.	\$450 00

## WIRES, ETC.

37 miles of wire on poles and buildings,  
724 poles set,  
6 large gongs in circuit?  
4 small gongs “  
22 signal boxes,

## LOCATION OF BELL-STRIKERS.

Elliott Church, Centre street,	Wards 1 and 7.
Methodist Church, Walnut street,	Ward 2.
City Hall, Washington street,	“ 3.
Congregational Church, Grove street,	“ 4.
Methodist Church, Summer street,	“ 5.
Mason School, Station and Beacon streets,	“ 6.

## OPERATING ROOM.

1 four-circuit repeater, (in case).	1 lounge.
6 galvanometers.	1 clock.
2 switch-boards.	1 mirror,
2 keys in circuit (in case).	2 cuspadores. 1 desk, 2 chairs.

## BATTERY ROOM.

4 stands for battery,	182 jars in circuit,	20 spare jars,
100 lbs. zines.	75 ft. kerite,	1 stove and pipe, 1 mirror.

## STORE ROOM.

1 wagon, complete,	8 bits and bittstock,
1 splice ladder,	1 iron chisel,
1 harness,	3 files,
12 rubber hooks,	1 hammer,
1 pr. gas nippers,	1 countersink,
2 pr. cut “	2 doz. lag screws,
1 bbl. glass insulators (220),	1 gimlet (long),
50 ft. $\frac{1}{4}$ inch rope,	1 axe,
1 solder pot,	1 tool box,
1 pr. spurs,	4 doz. iron insulator pins,
2 spoon shovels,	2 “ wooden “ “
1 steel bar, 7 ft.	185 lbs. No. 9 BB galv. wire,
1 wire reel,	250 “ compound wire,
4 spike poles,	600 ft. parafine “
1 tree trimmer,	2 tampers,
2 mallets,	1 saw,
1 frame chisel,	1 screw-driver,
2 fork wrenches,	1 root cutter,
1 monkey wrench,	2 doz. cross-arms.

## LOCATION OF SIGNAL BOXES.

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Box 4.—Auburn and Lexington streets, Auburndale.

- “ 5.—Hose house No. 6, Lower Falls.
- “ 6.—High street, Upper Falls.
- “ 7.—Walnut street, near R. R. Station, Newton Highlands.
- “ 8.—Beacon and Hammond streets, Chestnut Hill.
- “ 9.—Dedham and Brookline streets, Oak Hill.
- “ 12.—Park and Church streets, Newton.
- “ 13.—Sargent and Centre streets, Newton.
- “ 14.—Washington and Jewett streets, Newton.
- “ 15.—Engine house No. 1, Newton.
- “ 21.—Hook-and-Ladder No. 1, Washington street, Newtonville.
- “ 23.—Washington and Walnut streets, Newtonville.
- “ 24.—Police Station, North Village.
- “ 31.—Waltham and Washington streets, West Newton.
- “ 32.—River and Pine streets, West Newton.
- “ 35.—Engine house No. 2, West Newton.
- “ 41.—Charles street, Riverside.
- “ 52.—Poor Farm.
- “ 62.—Chestnut and Linden streets, Upper Falls.
- “ 72.—Crane's Machine Shop, Newton Highlands. (Private.)
- “ 73.—Engine house No. 3, Newton Centre.
- “ 81.—Ward street and Waverley avenue, Chestnut Hill.

Second and General Alarms will be given by order of the Chief or Assistant only.



## ENGINE ONE.

HOUSE, WASHINGTON, BELOW CENTRE ST., WARD 7.

NAME.	RANK.	Age.	Badge	OCCUPATION.	RESIDENCE.	Salary per Annum.
F. E. Judkins.	Engineer.	34	2	Engineer.	Engine House.	\$900 00
F. Harrington.	Driver.	26	73	Driver.	Engine House.	700 00
H. C. Lindley.	Fireman.	29	4	Painter.	Engine House.	100 00
W. H. Park, Jr.	Foreman.	34	5	Provisions.	Centre St.	80 00
C. E. F. Ross.	Ass't do.	38	12	Wheelwright.	Engine House.	65 00
O. F. Hamlin.	Clerk.	24	9	Mason.	Channing St.	65 00
O. R. Evans.	Hoseman.	38	86	Painter.	Fayette St.	60 00
C. A. Estabrook.	"	29	7	Grocer.	Jefferson St.	60 00
G. R. Ashton.	"	34	11	Paper Hanger.	Avon Place.	60 00
G. S. Holmes.	"	25	13	Carpenter.	Engine House.	60 00
Chas. Boulton.	"	28	16	Carpenter.	Winthrop Ave.	60 00
D. C. Graves.	"	21	15	Printer.	Carlton St.	60 00
P. Hoseason.	"	24	8	Car'age Paint'r	Engine House.	60 00
E. Pike, Jr.	"	24	6	Gas Fitter.	Washington St.	60 00

The engine in charge of this company is a double pump, first-class, built by Hunneman & Co., of Boston, in 1867. Placed in service in 1868.

Diameter of steam cylinder,	. . .	7 $\frac{1}{4}$ inches.
Length of stroke,	. . .	8 "
Diameter of pumps,	. . .	4 $\frac{1}{4}$ "
Length of stroke,	. . .	8 "

When worked to full capacity will discharge 800 gallons per minute.

## PROPERTY IN CHARGE OF ENGINE COMPANY No. 1.

*Engine Room.*

1 steam fire engine (complete),	4 lanterns,
1 horse hose-carriage,	3 oil cans,
6 arm chairs,	1 vise,
3 pr. monkey wrenches,	1 life rope,
2 pr. pipe tongs,	2 play pipes,
1 breast drill,	1 pr. steps,
1 hammer,	2 hydrant connections,
1 Stillson wrench,	3 whips,
50 ft. $\frac{3}{4}$ inch rubber hose,	2 Johnson pumps,
1 pr. lead bars,	2 chamois,
2 single "	3 sponges,
15 fire hats,	2 brooms,
16 overcoats,	1 dustpan and brush,
8 pr. spanners,	1 suction rope.

*Bunk Rooms.*

6 iron bedsteads,	1 dry sink,
6 hair mattresses,	2 stands,
6 husk       “	11 chairs,
6 spreads (white),	2 tables,
12 wool blankets,	2 carpets,
17 sheets,	1 oil carpet,
14 pillow slips.	6 rugs,
10 pillows,	1 carpet sweeper,
4 towels,	10 cuspadores.
1 bureau,	

*Stable.*

3 horses,	1 scraper,
3 sets double harness,	1 harness pan,
1 single       “	1 extra saddle,
1 B. lead       “	4 Micker bridles,
7 collars (4 inferior),	1 pair traces,
5       “ (worthless),	1 halter,
4 blankets,	4 surcingles,
1 curry comb,	1 shaft girt,
1 card,	2 martingales,
1 mane brush,	6 straps,
2 brooms.	1 clipping comb and shears,
1 pitch fork,	1 harness tub,
1 stall hook,	1 pr. hooks,
5 hitch straps,	3 collar weights and hooks.
2 water pails,	

*Basement.*

1 ash barrel,	12 tin dippers,
1 hose oiler,	1 tin barrel soap,
1 cooking stove,	1 washtub,
1 heater,	2000 ft. 2½ inch leather hose,
4 coal boxes,	(poor order.)
2 shovels,	

*Storeroom.*

1 supply wagon,	1 pole,
1 pung,	2 tons Cannel coal.

## ENGINE TWO.

HOUSE, WASHINGTON ST., OPP. LINCOLN PARK, WARD 3.

NAME.	RANK.	Age.	Badge	OCCUPATION.	RESIDENCE.	Salary per Annum.
R. S. Cummings.	Engineer.	30	17	Engineer.	Engine House.	\$900 00
C. L. Berry.	Driver.	27	19	Driver.	Engine House.	700 00
M. J. Crowley.	Fireman.	26	18	Painter.	Engine House.	100 00
G. H. Haynes.	Foreman.	41	21	Carpenter.	Cherry St.	80 00
F. H. Humphrey.	Ass't do.	33	23	Hardware.	Henshaw St.	65 00
F. H. Barrows.	Clerk.	33	30	Salesman.	Washington St	65 00
J. Q. A. Hawkes.	Hoseman.	54	26	Painter.	Webster St.	60 00
C. V. Knowles.	"	33	29	Painter.	Washington St	60 00
H. A. Waterhouse	"	23	24	Painter.	Engine House.	60 00
F. T. Burgess.	"	24	22	Plumber.	Engine House.	60 00
W. A. Whittaker.	"	33	20	Painter.	Washington St	60 00
W. F. Rand.	"	25	28	Wheelwright.	Webster St.	60 00
C. A. Cole.	"	35	27	Blacksmith.	Washington St	60 00
C. A. Needham.	"	21	25	Painter.	Engine House.	60 00
Walter M. Lucas.	"	22	31	Carpenter.	Hunter St.	60 00

The engine in charge of this company is a double pump, second class, built by the Amoskeag Manufacturing Company, Manchester, N. H., 1871, placed in service in 1872.

Diameter of steam cylinder,	. . . . .	6 $\frac{7}{8}$ inches.
Length of stroke,	. . . . .	8 "
Diameter of pumps,	. . . . .	4 $\frac{1}{8}$ "
Length of stroke,	. . . . .	8 "

When worked to its full capacity, will discharge 700 gallons per minute.

## INVENTORY OF PROPERTY IN CHARGE OF ENGINE COMPANY No. 2.

*Engine Room.*

1 steam fire engine (comp'e),	11 cuspadores,
1 horse hose carriage "	4 nozzles,
1850 ft. leather hose,	1 vise,
1150 ft. cotton hose,	1 clock,
50 ft. $\frac{3}{4}$ hose,	1 pot (water),
15 fire hats,	1 drinking tank,
17 woolen coats,	1 Johnson pump,
2 prs. steps,	1 shovel,
2 door mats,	1 poker,
1 jack,	1 jack screw,
3 leading hose pipes,	1 hammer,
3 hydrant wrenches,	1 brass saw,
2 hydrant valves,	2 monkey wrenches,
1 doz. arm chairs,	3 stuff-box wrenches,
1 set lead bars,	1 wheel-cap wrench.
1 table,	

*Bunk Rooms.*

6 iron bedsteads,	6 bolsters,
3 tables,	36 sheets and pillow cases,
2 bureaus,	13 chairs,
6 hair mattresses,	carpets,
6 husk       “	10-inch gong.

*Basement.*

1 hose oiler,	2 copper boilers,
1 tank,	1 cook stove,
1 wheelbarrow,	1 copper kettle,
45 tin dippers,	2 tons Cannel coal.
1 ash barrel,	

*Stable.*

3 horses,	9 blankets,
4 double harnesses,	1 curry comb,
2 single       “	3 brushes,
3 collars,	3 collar weights and hooks.

*Store Room.*

1 wagon,	1 piece suction,
1 pung,	1 extra whiffletree,
8 spare wheels (engine & hose),	4 hooks and chains.
4 bushel baskets,	

## ENGINE THREE.

HOUSE, WILLOW ST., BETWEEN CENTRE AND SUMNER, WARD 6.

NAME.	RANK.	Age.	Badge	OCCUPATION.	RESIDENCE.	Salary per Annum.
A. D. Colby.	Engineer.	48	32	Engineer.	Engine House.	\$900 00
E. C. Holmes.	Driver.	31	33	Driver.	Engine House.	700 00
A. C. Jewett.	Fireman.	21	34	Painter.	Engine House.	100 00
H. G. Sawyer.	Foreman.	32	36	Clerk.	Willow St.	80 00
G. W. Ulmer.	Ass't do.	29	44	Fire Al'm Opr.	Lyman St.	65 00
C. A. Peck.	Clerk.	22	46	Painter.	Engine House.	65 00
S. F. Chadbourne	Hoseman.	27	41	Carpenter.	Willow St.	60 00
C. B. Garey.	“	30	42	Carpenter.	Lyman St.	60 00
Jno. Davidson.	“	26	40	Coachman.	Beacon St.	60 00
A. J. Roach.	“	21	38	Clerk.	Warren St.	60 00
W. Bliss.	“	23	39	Painter.	Willow St.	60 00
G. F. Richardson	“	21	37	Clerk.	Lyman St.	60 00
Van Martin.	“	33	45	Carpenter.	Centre St.	60 00
Lac Martin.	“	27	43	Carpenter.	Centre St.	60 00
A. J. English.	“	30	35	Carpenter.	Centre St.	60 00

The engine in charge of this company is a double pump, second class, built by the Amoskeag Manufacturing Company, Manchester, N. H., 1874 ; placed in service March, 1875.

Diameter of steam cylinder,	. . .	6 $\frac{7}{8}$ inches.
Length of stroke,	. . .	8 "
Diameter of pumps,	. . .	4 $\frac{1}{4}$ "
Length of stroke,	. . .	8 "

When worked to its full capacity, will discharge 800 gallons per minute.

#### INVENTORY OF PROPERTY IN CHARGE OF THIS COMPANY.

##### *Engine Room.*

1 steam fire engine (complete),	1 extra engine grate,
1 horse hose carriage,	1000 ft. cotton hose,
1 set lead bars,	1050 ft. leather hose,
2 play pipes,	50 ft. $\frac{3}{4}$ inch rubber hose,
1 Johnson pump,	1 zinc pan.
3 leading hose pipes,	15 lbs. waste,
15 fire hats,	2 hydrant gates,
15 coats,	2 hydrant wrenches,
1 dust pan and brush,	1 water pail,
2 shovels,	4 door mats,
2 bars,	2 W. brushes,
1 poker,	50 ft. $\frac{3}{4}$ rope,
1 jack screw,	1 20-ft., 1 14-ft. flags,
13 pairs spanners,	1 8-in. door gong,
1 wagon jack,	1 indicator.

##### *Tool Room.*

2 die plates,	2 Stillson wrenches,
10 dies,	5 files,
2 taps,	1 vise,
2 pipe cutters,	1 hammer,
6 cold chisels,	6 drills,
1 monkey wrench,	1 ratchet drill.

##### *Bunk Rooms.*

6 iron bedsteads,	5 comforters,
10 mattresses,	6 spreads,
3 hair bolsters,	4 chairs,
6 pillows,	2 tables,
18 sheets,	2 bureaus,
12 pillow cases,	2 carpets.
6 pairs blankets,	

##### *Parlor.*

1 table,	1 rug,
1 mirror,	1 carpet.
18 chairs,	

*Basement.*

Half barrel oil,	1 hose oiler,
2 galls. sperm oil,	1 cook stove and boiler,
1 5 gall. can,	4 hose brushes,
1 2 " "	15 tin dippers,
1 " "	5 tin pans,
1 2½ " "	1 shovel,
1 axe,	1 poker.

*Stable.*

3 horses,	8 street blankets,
2 sets double harness,	2 fly blankets,
2 single " "	2 curry combs,
1 pair traces,	2 brushes,
1 single " "	1 mane brush,
1 set lead harness,	1 card,
7 halter bridles,	1 quart measure,
2 blind " "	1 stall hook,
2 pairs lead traces,	2 forks,
1 heavy saddle,	4 brooms,
1 light " "	1 pail,
1 pair hames,	1 chamois.
2 halter straps,	3 collar weights and hooks.

*Store Room.*

1 wagon, complete,	1 set spare wheels,
3 tons Cannel coal.	

## HOOK-AND-LADDER ONE.

HOUSE, WASHINGTON ST., OPP. WALKER, WARD 2.

NAME.	RANK.	Age.	Badge	OCCUPATION.	RESIDENCE.	Salary per Annum.
Chas. Murphy.	Driver.	23	59	Driver.	Truck House.	\$700 00
W. S. Higgins.	Foreman.	31	62	Carpenter.	Washington St	80 00
W. H. Dyer.	Ass't do.	26	63	Clerk.	Truck House.	65 00
L. H. Cranitch.	Clerk.	33	60	Painter.	Washington St	65 00
R. F. Cranitch.	Ladd'r'm'n	24	64	Painter.	Truck House.	60 00
J. H. Gilman.	"	29	69	Milkman.	Washington St	60 00
J. H. Williams.	"	42	66	Painter.	Linwood St.	60 00
O. Dow.	"	35	86	Plumber.	Murray St.	60 00
F. B. Sisson.	"	40	81	Carpenter.	Washington St	60 00
J. E. Watson.	"	25	70	Contractor.	Allston St.	60 00
A. O. Davis.	"	20	68	Clerk.	Truck House.	60 00
B. F. Barlow.	"	32	65	Blacksmith.	Parson St.	60 00
J. Murphy.	"	30	61	Teamster.	Murray St.	60 00

The truck in charge of this company was built by Bulkley & Merritt of New York, and rated first-class. Placed in service, September, 1879.

It carries a total of 314 feet of ladders, which were made by the Extension Ladder Company of Bangor, Me., and are complete in every respect.

Weight of truck, when ready for service, 5000 lbs.

#### INVENTORY OF PROPERTY IN CHARGE OF THIS COMPANY.

##### *Truck Room.*

1 two-horse truck, complete,	1-monkey wrench,
3 blankets,	1 jack,
1 hammer,	1 bell,
1 pair lead bars,	1 door gong,
4 Johnson pumps,	1 broom and dust pan,
13 coats,	1 feather duster,
13 fire hats,	2 mop handles,
1 single whippletree,	2 scrub brushes,
50 $\frac{3}{4}$ rubber hose,	1 clock,
7 chairs,	1 mirror,
4 cuspadores,	1 drinking tank.
3 mats,	

##### *Bunk Rooms.*

36 yards carpets,	5 pillows,
4 iron bedsteads,	4 chairs,
4 hair mattresses,	3 curtains,
4 excelsior “	4 cuspadores,
6 double blankets,	1 bureau,
6 comforters,	1 mirror.
4 spreads,	

##### *Parlor.*

30 yards carpet,	13 chairs,
1 table,	4 curtains.

##### *Basement.*

1 cook stove and boiler (old),	28 dippers.
1 force pump (old),	

##### *Stable.*

2 horses,	1 curry comb and brushes,
1 double harness,	1 pair pole straps,
1 lead harness,	2 collar weights and hooks.



## HOSE FOUR.

HOUSE, WASHINGTON ST., OPP. WALKER, WARD 2.

NAME.	RANK.	Age.	Badge	OCCUPATION.	RESIDENCE.	Salary per Annum.
E. C. Waterhouse	Foreman.	24	52	Carpenter.	Hose House.	\$80 00
J. Fontaine.	Clerk.	27	47	Shoemaker.	Wash'n and Walnut.	65 00
F. A. Dexter.	Hoseman.	21	50	Clerk.	Hose House.	60 00
J. F. Horrigan.	"	34	48	Painter	Washington St	60 00
J. Deery.	"	21	49	Lamp Dept.	Hose House.	60 00
E. P. Besse.	"	39	51	Carpenter.	Brookside Ave	60 00

The carriage in charge of this company was built by Hunneman & Co., of Boston, 1874, and placed in service the same year.

## INVENTORY OF PROPERTY IN CHARGE OF THIS COMPANY.

*Carriage Room.*

1 horse hose carriage,	2 leading hose pipes,
700 feet leather hose,	6 hose straps,
800 " cotton hose,	1 axe,
6 fire hats,	2 head-lights,
6 coats,	1 pair lanterns,
2 hydrant valves,	2 hydrant wrenches,
4 lanterns,	1 Johnson pump.
6 pairs spanners,	

*Bunk Rooms.*

24 yards carpet,	2 single bedsteads,
3 hair mattresses,	1 double "
2 excelsior "	5 double blankets,
4 comforters,	3 spreads,
4 pillows,	2 curtains,
2 cuspadores,	4 chairs,
1 mirror,	12 pillow cases,
1 bureau,	7 towels.

*Parlor.*

30 yards carpet,	1 table.
7 chairs,	

*Stable.*

1 collar weight and hook,	1 harness,
1 horse,	1 street blanket.



## HOSE FIVE.

HOUSE, AUBURN ST., ABOVE MELROSE, WARD 4.

NAME.	RANK.	Age.	Badge	OCCUPATION.	RESIDENCE.	Salary per Annum.
W. F. Soule.	Foreman.	41	53	Carpenter.	Melrose St.	\$80 00
J. F. Kimball.	Clerk	32	54	Carpenter.	Auburn St.	65 00
C. H. Hall.	Hoseman.	30	55	Painter.	Central St.	60 00
J. C. Merrill.	"	23	56	Awning Mak'r.	Hose House.	60 00
C. A. McCullom.	"	29	57	Carpenter.	Grove St.	60 00
A. H. Richards.	"	24	58	Clerk.	Woodland Av.	60 00

The carriage in charge of this company was built in Philadelphia, 1867. Placed in service, October, 1878.

## INVENTORY OF PROPERTY IN CHARGE OF THIS COMPANY.

*Carriage Room.*

1 horse hose carriage,	35 tin dippers,
1 pung,	1 monkey wrench,
1 street blanket,	2 hose brushes,
6 hats,	13 chairs,
6 coats,	1 broom,
5 pairs spanners,	1 duster,
1 Johnson pump,	3 ladders,
2 hydrant valves,	2 hooks,
1050 feet leather hose,	1 sponge,
50 " $\frac{3}{4}$ rubber hose,	3 $\frac{1}{2}$ dozen spoons.
1 pair lanterns,	

*Bunk Rooms.*

Carpets,	2 iron bedsteads,
2 husk mattresses,	2 hair mattresses,
2 pillows,	4 pillow cases,
2 bureaus,	2 water stands,
2 bowls,	2 pitchers,
1 curtain,	8 sheets,
2 coverlids,	4 blankets,
2 spreads,	4 cuspadores.

*Parlor.*

Carpet,	6 chairs,
3 curtains,	1 table.

*Stable.*

1 horse,	1 collar weight and hook,
1 fly-blanket,	1 harness.

## HOSE SIX.

HOUSE, WASHINGTON ST., ABOVE WALES, WARD 4.

NAME.	RANK.	Age.	Badge	OCCUPATION.	RESIDENCE.	Salary per Annum.
F. B. Reed.	Foreman.	32	74	Provisions.	Washington St	\$80 00
W. Leonard.	Clerk.	20	77	Machinist.	Hose House.	65 00
B. Early.	Hoseman.	22	75	Machinist.	Hose House.	60 00
G. A. Reed.	"	30	79	Brakeman.	Washington St	60 00
J. Kenny.	"	21	78	Carder.	Beacon St.	60 00
R. H. Moulton.	"	34	76	Machinist.	Wales St.	60 00

The carriage in charge of this company was built by Hunneman & Co., of Boston, in 1877, and placed in service the same year.

## INVENTORY OF PROPERTY IN CHARGE OF THIS COMPANY.

*Carriage Room.*

1 horse hose carriage,	1 Johnson pump,
1 pung,	1 hydrant valve,
1500 ft. leather hose (fair order),	6 chairs,
7 hats,	1 clock,
6 coats,	50 feet $\frac{3}{4}$ rubber hose,
6 pairs spanners,	1 table.

*Bunk Rooms.*

4 iron bedsteads,	4 excelsior mattresses,
4 hair mattresses,	8 sheets,
8 pillow cases,	4 pillows,
4 coverlids,	4 comforters,
8 blankets,	4 chairs,
carpets,	1 gas torch.
2 curtains,	

*Parlor.*

1 carpet,	14 chairs,
1 table,	3 curtains.

*Stable.*

1 horse,	1 collar weight and hook,
2 blankets (1 fly).	1 harness.

## HOSE SEVEN.

HOUSE, PETTEE ST., REAR PROSPECT SCHOOL, WARD 5.

NAME.	RANK.	Age.	Badge	OCCUPATION.	RESIDENCE.	Salary per Annum.
W. S. Cargill.	Foreman.	32	82	Carpenter.	High Street.	\$80 00
H. A. Smith.	Clerk.	25	84	Carpenter.	Hose House.	65 00
J. E. Trowbridge	Hoseman.	44	81	Hardware.	High Street.	60 00
R. H. Hodgdon.	"	29	83	Machinist.	High Street.	60 00
J. Doole.	"	23	85	Machinist.	Hose House.	60 00
J. T. Thomason.	"	31	80	Clerk.	Chestnut St.	60 00

The carriage in charge of this company was built by Hunneman & Co., of Boston, 1878. Placed in service, January, 1879.

## INVENTORY OF PROPERTY IN CHARGE OF THIS COMPANY.

*Carriage Room.*

1 horse hose carriage,	6 pairs spanners,
1 pung,	1 hydrant valve,
1 street blanket,	1 Johnson pump,
6 fire hats,	50 feet $\frac{1}{2}$ rubber hose,
6 coats,	1 chamois,
6 chairs,	7 curtains,
1 table,	1600 ft. leather hose (fair order),
1 clock,	1 ash barrel,
1 duster,	1 5-gall. can.

*Bunk Rooms.*

2 iron bedsteads,	2 spreads,
2 hair mattresses,	2 bureaus,
2 husk " "	1 mirror,
6 sheets,	4 chairs,
6 pillow cases,	2 carpets.
2 double blankets,	

*Parlor.*

carpet,	1 table,
6 chairs,	4 curtains.
3-light chandelier,	

*Stable.*

1 horse,	1 curry comb,
1 harness,	2 brushes,
1 stable blanket,	1 collar weight and hook.
1 fly " "	

## Record of Fires and Alarms

Day of Week.	DATE.	HOOR.	BOX.	OWNER PROP'TY.	OCCUPANTS.	LOCATION.	LOSS.
	1879.						
Mon.	Jan. 27.	12.45 a.m.	Still.			Waltham.	
Sat.	Feb. 22.	11.35 a.m.	4	W. Harding.	W. Harding.	Central St.	Trifling.
Sat.	" 22.	11.15 p.m.	32	D. McBride.	Unoccupied.	Auburndale Ave.	\$300.00
Fri.	Mar. 7.	3 a.m.	Still.			Grantville.	
Thur.	" 20.	9.35 a.m.	15	B. & A. Ry. Co.	B. & A. Ry. Co.	Centre St.	50.00
Tues.	" 25.	4.05 p.m.	52	T. Quilty.	T. Quilty.	Beacon St.	1,200.00
Sun.	Apr. 6.	6.52 p.m.	7	Congreg'l Church.	Church.	Lincoln & Hart'd Sts.	50.00
Sun.	" 13.	1.40 a.m.	14	D. A. Massey.	Unoccupied.	Adams St.	598.00
Tues.	" 22.	8.26 a.m.	73	Frank Morse.	Frank Morse.	Morton Place.	900.00
Wed.	" 23.	3 p.m.	Still.			Watertown.	
Wed.	" 23.	4.30 p.m.	Still.			Beacon St.	
Sat.	" 26.	3.03 p.m.	73	Dennis Donohue.	D. Donohue.	Homer St.	Trifling.
Sat.	" 26.	3.30 p.m.	Still.			Pine Grove Ave.	
Thur.	May 1.	8.36 a.m.	73	Horace Cousins.	W. Bemis.	Station St.	50.00
Tues.	" 6.	9.30 p.m.	Still.			Morton & Mill Sts.	
Tues.	" 6.	11.30 p.m.	Still.	M. Springer.	M. Springer.	Arlington & Pembroke	20.00
Wed.	" 7.	1.35 a.m.	4	Amina Littlefield.	Amina Littlefield.	Rowe St.	2,200.00
Sat.	" 10.	8.45 a.m.	32	Jno. Scully.	Jno. Scully.	Auburndale Ave.	10.00
Sat.	" 10.	11.30 a.m.	Still.			Beacon St.	
Sat.	" 10.	3.15 p.m.	Still.			Highland St.	
Sat.	" 10.	5.15 p.m.	23			Otis St.	
Mon.	" 12.	9.38 a.m.	7			Winchester St.	
Sun.	" 18.	9.55 p.m.	14	B. & A. Ry. Co.	Smead & Co.	Church St.	110.00
Sat.	Jne. 14.	3.10 p.m.	Still.			Brighton.	
Sun.	" 15.	10.15 a.m.	15	H. Van Bushkirk.	H. Van Bushkirk.	Washington St.	20.00
Thur.	" 22.	1.40 a.m.	24	Timothy Mack.	Timothy Mack.	Watertown St.	5.00
Sat.	July 5.	3 a.m.	24	Timothy Mack.	Timothy Mack.	Watertown St.	150.00
Sun.	" 6.	1.40 a.m.	15			Brighton.	
Fri.	" 11.	9.35 p.m.	15	B. & A. Ry. Co.	Unoccupied.	Centre St. Court.	Trifling.
Sat.	" 12.	2.30 p.m.	Still.	B. & A. Ry. Co.	B. & A. Ry. Co.	Washington St.	Trifling.
Mon.	" 14.	11.10 a.m.	Still.	S. M. Bond.	S. M. Bond.	Centre St.	25.00
Sat.	" 26.	5.25 a.m.	15	Jno. Grace.	Unoccupied.	Pearl St.	250.00
Thur.	Aug. 7.	1.45 p.m.	14	Jno. Coffee.		Crafts St.	25.00
Fri.	" 11.	9.55 p.m.	15	Frank Davis.	Unoccupied.	Washington St.	350.00
Fri.	" 11.	1.40 p.m.	Still.	Methodist Ch.	Sheds.	Wesley St.	Trifling.
Tues.	" 12.	11.35 p.m.	15	Frank Hyde.	Frank Hyde.	Centre St.	3,500.00
Wed.	" 13.	1.30 a.m.	13	J. M. Weston.	J. M. Weston.	Franklin St.	Trifling.
Fri.	" 15.	2 a.m.	Still.	Frank Hyde.	Frank Hyde.	Centre St.	Trifling.
Mon.	Sept. 8.	3.45 p.m.	52	Mrs. E. J. Collins.	Jas. Scott.	Rear Beacon St.	250.00
Fri.	" 19.	3.05 a.m.	15	Mrs. Jones.	Unoccupied.	Elmwood St.	5.00
Thur.	Oct 9.	10.04 p.m.	73				
Thur.	" 9.	10.18 p.m.	73	Mass. Life Ins. Co.	Unoccupied.	Homer St.	5,455.10
Wed.	" 22.	12.40 p.m.	15	G. N. Endicott.	G. N. Endicott.	Hyde Ave.	100.00
Sat.	" 25.	10.40 p.m.	Still.			Park St.	
Sat.	Nov. 4.	4.50 p.m.	15	Geo. Lord.	Unoccupied.	Park and Sargent.	Trifling.
Sun.	" 9.	11.10 p.m.	Still.			Auburn St.	
Fri.	" 14.	10 p.m.	Still.		W. P. Clark.	Cherry St.	Trifling.
Sat.	" 15.	1.30 p.m.	Still.	N. T. Allen.	Smart Maxwell.	Cherry St.	Trifling.
Mon.	" 17.	10 a.m.	Still.	E. F. Waters.		Homer St.	Trifling.
Mon.	Dec. 1.	3 p.m.	73	Leonard Hyde.	Michael Beppe.	Dudley St.	350.00
Fri.	" 5.	3.15 p.m.	Still.	C. W. Sanderson.		Tremont & Waverly Av	45.00
Mon.	" 8.	10.44 p.m.	15	O. W. Turner.	F. E. Wallingford.	Washington St.	Trifling.
Grand Total.....							\$16,018.10

Total Loss over and above Insurance paid.....

## From January 1, 1879, to December 31, 1879.

INSUR'CE	INS. PAID.	STYLE OF BUILDING.	CAUSE OF FIRE.	APPARATUS PRESENT.
\$2,000.00		2½ st'y wood dwelling.	Call for assistance.	Engine 2 and carriage.
1,200.00	300.00	1½ st'y wood dwelling.	Thawing water pipes.	Engine 2, hose 4, truck 1.
			Incendiary.	Engine 2, hose 4, truck 1.
10,000.00	50.00	1 st'y wood station.	Call for assistance.	Hose 6.
1,200.00	1,200.00	2 st'y wood dwelling.	Defective furnace.	Engine 1, hose 4, truck 1.
12,000.00	50.00	1 st'y wood church.	Defective flue.	Engine 2, hose 6, 7, truck 1.
1,000.00	598.00	2 st'y wood stable.	Gas jet.	Engine 3, hose 7, truck 1.
600.00	600.00	2 st. wd. greenh. & stable.	Incendiary.	Engine 1, hose 4, truck 1.
			Defective flue.	Engs. 1, 3, hose 4, 7, truck 1.
			Call for assistance.	Engine 1 and carriage.
			Brush fire.	Members Engine 3.
		2 st'y wood dwelling.	Burning chimney.	Engine 3, hose 7, truck 1.
			Brush fire.	Hose 6.
		1 st'y wood paint store.	Oil rags.	Engine 3, hose 7, truck 1.
7,000.00	20.00	3 st'y wood dwelling.	Brush fire.	Members Engine 3.
4,000.00	2,200.00	2½ st'y wood dwelling.	Defective flue.	Engine 1.
400.00	10.00	1 st'y wood dwelling.	Incendiary.	Eng. 2, hose 4, 5, 6, truck 1.
			Defective flue.	Engine 2, hose 4, truck 1.
			Brush fire.	Members Engine 3.
			Brush fire.	Members Engine 2.
			Brush fire.	Engs. 1, 2, hose 4, truck 1.
			Brush fire.	Engine 3, hose 7, truck 1.
75.00	75.00	Freight car—hay.	Incendiary.	Engine 1, hose 4, truck 1.
			Call for assistance.	Engine 1.
800.00	20.00	2½ st'y wood dwelling.	Child'n play'g matches.	Engine 1, hose 4, truck 1.
		1 st'y wood shoe-shop.	Incendiary.	Engs. 1, 2, hose 4, truck 1.
1,200.00	150.00	2½ st'y wood dwelling.	Smoking in bed.	Engs. 1, 2, hose 4, truck 1.
			Call for assistance.	Engines 1, 3, hose 4.
		2½ st'y wood dwelling.	Locomotive sparks.	Engine 1, hose 4, truck 1.
		1 st'y wood flag-station.	Locomotive sparks.	Engine 1, hose 4, truck 1.
		3 st'y wood store.	Use of benzine.	Members Engine 1.
600.00	250.00	2½ st'y wood dwelling.	Incendiary.	Engine 1, hose 4, truck 1.
		2 stacks straw.	Child'n play'g matches.	Engine 1, hose 4, truck 1.
3,000.00	350.00	3 st'y wood dwelling.	Incendiary.	Engine 1, hose 4, truck 1.
		1 st'y wood sheds.	Supposed smoking.	Members Engine 1.
3,000.00	3,000.00	2 st'y wood stables.	Incendiary.	Engine 1, hose 4, truck 1.
		2½ story wood dwelling.	Sparks from above fire.	Engs. 1, 2, 3, hose 4, 7, truck 1.
			Rekindling of ruins.	Members Engine 1.
		1 st'y wood dwelling.	Child'n play'g matches.	Engine 2, hose 6, 7, truck 1.
		2 st'y wood stable.	Incendiary.	Engine 1, hose 4, truck 1.
8,000.00	5,455.10	3 st'y wood dwelling.	Incendiary.	Engs. 1, 3, hose 4, 7, truck 1.
10,000.00	100.00	3 st'y wood dwelling.	Incendiary.	Engine 1, hose 4, truck 1.
			Smoke from furnace.	Members Engine 1.
		3 st'y wood dwelling.	Defective flue.	Engine 1, hose 4, truck 1.
			Brush fire.	Hose 5.
		2 st'y wood dwelling.	Spark from lamp.	Extinguished by citizens.
		1 st'y wood dwelling.	Smoking in bed.	Extinguished by citizens.
		1 st'y wood dwelling.	Rags stuffed in flue.	Members truck 1.
45.00	45.00	Wagon loaded with hay.	Child'n play'g matches.	Engine 3, hose 7, truck 1.
6,000.00		1 st'y wood stable.	Set by boys.	Engine 1.
			Explos'n kerosene lamp	Engine 1, hose 4, truck 1.

\$72,120.00 \$14,473.10

\$1,545.10

## SERVICE PERFORMED BY THE DEPARTMENT DURING THE YEAR.

No. ft. Hose laid.	Ladders.	Miles Travelled.	Hrs. in Service.
28,450 feet.	833 feet.	275 miles.	71 hours.

## HOSE IN SERVICE, AND HOW DISTRIBUTED.

COMPANIES.	LEATHER.	AMERICAN JACKET.	EUREKA.	LENGTH OF SERVICE.
Engine One.	2,000 feet.	1,150 feet.	1,000 feet.  800 feet.	Five years.
Engine Two.	1,850 feet.			Seven years.
Engine Two.				Seven months.
Engine Three.	1,000 feet.			Seven years.
Engine Three.				Two years 8 mos.
Hose Four.	900 feet.			Nine years.
Hose Four.				Two years 8 mos.
Hose Five.	1,150 feet.			Six years.
Hose Six.	1,500 feet.			Seven years.
Hose Seven.	1,600 feet.			Seven years.
Total, Grand Total,	10,000 feet.	1,150 feet.	1,800 feet.	12,950 feet.

## ALARMS PER YEAR SINCE 1874.

1874.....	31
1875.....	40
1876.....	64
1877.....	37
1878.....	47
1879.....	32



## LOCATION OF HYDRANTS.

### WARD ONE.

Bellevue st. and Newtonville ave.	Pearl and Jewett sts.
Bellevue and Centre St.	Pearl and Waban sts.
Bellevue, 495 ft. W. Centre st.	Richardson and Church sts.
Bellevue st. and Maple pl.	Richardson, 455 ft. W. Centre st.
Boyd and Jewett sts.	School and Waban sts.
Bennington and Centre sts.	Waban park,
Church st. and Maple pl.	Walnut park,
Fayette and Gardner sts.	Washington, 400 ft. W. Walnut park.
Hovey and Washington sts.	Washington and Bacon sts.
Jewett and Washington sts.	Watertown and Pearl sts.
Newtonville ave. and Oak st.	Wesley and W. Centre sts.
Newtonville ave., 130 ft. E. Howard st.	

### WARD TWO.

Adams st., 120 ft. N. Washington st.	Highland ave., 470 ft. W. Walnut st.
Adams st., 400 ft. N. Clinton st.	Highland ave.
Adams and Watertown sts.	Lowell and Walnut sts.
Brooks ave. and Washington st.	Lowell and Edinboro' sts.
Bowers st., 675 ft. E. Walnut st.	Lowell and Washington sts.
Bridge and Chandler sts.	Newtonville ave. and Harvard st.
Bridge, 465 ft. N. Chandler st.	Newtonville ave., 530 ft. E. Walnut st.
Bridge and California sts.	Newtonville ave. and Walnut st.
Brooks pl., 600 ft. N. Washington st.	Otis and Walnut sts.
Brookside ave. and Washington st.	Otis st. and Forest ave.
Chapel and Watertown sts.	Otis and Murray sts.
Chapel and Dalby Mills.	Walker and Washington sts.
Cabot st., 745 ft. E. Walnut.	Walker, 475 ft. N. Washington st.
Central ave. and Washington sts.	Walnut, 340 ft. S. Cabot st.
Central ave. and Turner sts.	Walnut and Washington sts.
Central ave. and Prescott sts.	Walnut, 540 ft. N. Washington st.
Court st., 550 ft. Central ave.	Walnut st., 330 ft. S. Crafts st.
Crafts and Linwood sts.	Washington and Harvard sts.
Crafts and California sts.	Washington and Crafts sts.
California, 700 ft. E. Crafts st.	Washington park, 500 ft. E. Walnut st.
Cross and Washington sts.	Watertown, 310 ft. W. Walnut st.
Forest ave., 500 ft. S. Otis st.	Watertown and Crafts sts.
Harvard and Washington park.	Washington and Parsons st.
Highland ave. and Walnut st.	

### WARD THREE.

Alpine st., 800 ft. E. Hillside av.	Margin and Putnam sts.
Auburn and Washington sts.	Mt. Vernon and Hillside ave.
Auburn and Crescent sts.	Mt. Vernon and Greenwood ave.
Chestnut and Washington sts.	Otis st. and Hillside ave.
Elm and Washington sts.	Otis, 500 ft. E. Hillside ave.
Fountain and Highland sts.	Oak ave., 500 ft. N. Webster st.
Eden, 300 ft. N. Watertown sts.	Prospect and Washington sts.
Highland and Washington sts.	Perkins and Lander sts.
Highland and Hunter sts.	River and Henshaw sts.
Highland and Chestnut sts.	River and Elm sts.
Hillside ave. and Chestnut sts.	River st. and Franklin School.

WARD THREE. (*Continued.*)

River and Pine sts.	Washington st. and Lucas ave.
Temple and Highland sts.	Watertown and Cross st.
Temple and Putnam sts.	Watertown, 260 ft. E. Davis ct.
Temple and Prospect sts.	Webster and Waltham sts.
Waltham and Washington sts.	Webster and Cherry sts.
Waltham, 500 ft. N. Eden st.	Webster st. and Oak ave.
Waltham and Derby sts.	Webster st. and Webster pl.
Waltham and Pleasant sts.	Webster pl. and Webster park,
Waltham and Crafts sts.	Winthrop and Putnam sts.
Washington, 600 ft. W. Cross st.	Winthrop and Shaw sts.
Washington st. and Davis ct.	

## WARD FOUR.

Ash and Melrose sts.	Hancock and Central sts.
Ash and Seaverns sts.	Islington ave. and Malvern sts.
Ash st. and the Park.	Lexington and Auburn sts.
Auburn and Greenough sts.	Lexington, 860 ft. N. Auburndale av.
Auburn st., 240 ft. W. Maple st.	Lexington and Freeman sts.
Auburn and Washington ave.	Melrose and Seaverns sts.
Auburn and Franklin sts.	Foot Melrose st.
Auburndale ave., 540 ft. W. Rowe st.	Oakland and Auburn sts.
Beacon, 1180 ft. E. Washington st.	Pine Grove ave.
Beacon st. and Almshouse.	Rowe and Auburn sts.
Beacon, 300 ft. W. Woodward st.	Rowe st. and R. R. Crossing.
Concord st., 300 ft. N. R. R. Crossing.	Seminary ave. and Woodland ave.
Concord and Washington sts.	Vista ave., 540 ft. S. Woodland ave.
Central, 340 ft. W. Fern st.	Wales st. and Needham line.
Central and Woodland ave.	Washington, 300 ft. E. Grove st.
Central, 500 ft. E. Woodland ave.	Washington and Hamilton sts.
Charles st. and R. R. Station.	Washington and Wales sts.
Charles, 1000 ft. W. Auburn st.	Washington, 290 ft. E. Wales st.
Charles and Auburn sts.	Washington and Beacon sts.
Evergreen ave., 500 ft. S. Auburn st.	Washington, 650 ft. E. Beacon st.
Grove and Washington sts.	Washington, 1300 ft. E. Beacon st.
Grove, 500 ft. N. Washington st.	Washington st. and Aspen ave.
Grove, 1000 ft. N. Washington st.	Washington, 100 ft. E. Fuller st.
Grove and Cornell sts.	Washington and Greenough sts.
Grove and Woodland ave.	Wolcott st. and Wolcott park.
Grove st., 460 ft. N. Woodland ave.	Wolcott and Rowe sts.
Grove and Central sts.	Washington ave. and Auburn st.
Hawthorne ave. and Woodland ave.	Woodland ave. and Washington.
Hancock and Grove sts.	Woodland ave. and Maple st.
Hancock and Fern streets.	Woodland ave., 100 ft. W. Maple st.
Hancock and Woodland ave.	

## WARD FIVE.

Boylston and Needham line.	Columbus and Lincoln sts.
Boylston and Chestnut sts.	Elliott, 265 ft. W. Chestnut st.
Boylston, 500 ft. E. High st.	Elliott and Oak sts.
Boylston and Hartford sts.	Elliott and Cottage sts.
Boylston and Centre streets.	Erie ave. and Bowdoin st.
Chestnut and Summer sts.	Forest and Columbus st.
Chestnut and Elliott sts.	Forest and Bowdoin sts.
Clark and Parker sts.	Hartford and Erie ave.
Clark and Centre sts.	High and Winter sts.



WARD FIVE. (*Continued.*)

High and Boylston sts.	Oak and Linden sts.
Lake ave. and Walnut st.	Pettee st., opp. Hose House 7.
Lincoln and Woodward sts.	Walnut and Centre sts.
Pumping station and Needham line.	Walnut, N. Forest st.
Needham st., 100 ft. E. pump'g stat'n.	Winchester and Hyde sts.
Oak st., 400 ft. E. Needham st.	Woodward and Boylston sts.
Oak st., 85 ft. N. Chestnut st.	Woodward and Chestnut sts.

## WARD SIX.

Beacon st. and Beacon ct.	Hammond st., op. F.W. Johnson's.
Beacon and Crescent sts.	Hammond and Beacon sts.
Beacon and Centre sts.	Hammond st., op. Dr. Slade's.
Beacon st., 490 ft. W. Grant ave.	Hammond st., op. Daniel Stone's.
Beacon st., 2000 ft. E. Grant ave.	Hammond st., op. Chapel.
Cedar and Homer sts.	Hammond st. and R. R. bridge.
Cedar, 1500 ft. N. Homer st.	Homer, 150 ft. E. Cedar st.
Centre and Clinton pl.	Homer and Pleasant sts.
Centre and Homer sts.	Hyde and Centre sts.
Centre and Ward sts.	Knowles and Station sts.
Centre and Mill sts.	Parker, 630 ft. S. Cypress st.
Centre, 310 ft. N. Cotton st.	Pleasant, 465 ft. W. Centre st.
Centre, 610 ft. S. Sargent st.	Pleasant, 1000 ft. N. Beacon st.
Centre and Sargent sts.	Roger and Centre sts.
Chase st. and Institution ave.	South st., 480 ft. S. Ward st.
Chase and Station sts.	Station, 135 ft. E. Centre st.
Crescent and Centre sts.	Station and Beacon sts.
Crystal st. and Lake ave.	Sumner and Gibbs sts.
Cypress and Paul sts.	Ward, 570 ft. E. Sumner st.
Everett st.	Ward and Grant ave.
Elgin, 480 ft. E. Glen ave.	Ward st., 480 ft. E. Waverley ave.
Grafton and Homer sts.	Ward st. and Waban hill.
Lyman, bet'n Centre & Sumner sts.	Ward st., 550 ft. W. South st.
Maple ave.	Warren st. and Glen ave.
Homer and Walnut sts.	Willow and Centre sts.
Homer, 600 ft. E. Walnut sts.	Walnut st. and Cemetery gate.

## WARD SEVEN.

Arlington st. and Waverley ave.	Park and Sargent sts.
Arlington and Pembroke sts.	Pearl and Bacon sts.
Centre and Mt. Ida sts.	Pearl and Linden sts.
Church and Centre sts.	St. James st., R. R. bridge.
Church and Eldredge sts.	Sargent and Hyde ave.
Church and Park sts.	Tremont and Pembroke sts.
Elmwood and Centre sts.	Tremont and Waverley ave.
Elmwood and Brook sts.	Vernon and Centre sts.
Franklin and Centre sts.	Vernon and Baldwin sts.
Franklin and Kenrick park.	Washington and Nonantum sts.
Franklin and Waverley ave.	Washington and Park sts.
Hunnell st.	Washington, 190 ft. E. St. James st.
Jefferson and Williams sts.	Washington st. and Boston line.
Linden and Washington sts.	Washington st., 395 ft. E. Waverley
Nonantum st., 110 ft. N. Orchard st.	ave.
North Bend and Centre sts.	Waverley ave. and Kenrick sts.
Park and Vernon sts.	Waverley ave., 925 ft. S. Kenrick st.
Park, 525 ft., S. Vernon st.	Waverley ave. and Cotton sts.

## LOCATION OF RESERVOIRS.

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### WARD ONE.

Washington st., op. School st.	Church and Richardson sts.
School and Pearl sts.	

### WARD TWO.

Washington and Walnut sts.	Walnut and Lowell sts.
Washington park.	

### WARD FOUR.

Central st., bet'n Grove & Maple sts.	Auburn and Melrose sts.
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### WARD FIVE.

High st., op. Elliott Hall.	Chestnut and Summer sts.
Pettee st.	Lincoln st.
Elliott, W. High st.	

### WARD SIX.

Centre and Beacon sts.	Station and Glen sts.
Pelham st., W. Centre st.	

### WARD SEVEN.

Church and Centre sts.	Kenrick park.
Centre st. and R. R. crossing.	Waverley ave. and Arlington st.
Nonantum sq.	Tremont and Park sts.
Franklin and Centre sts.	

REPORT  
OF THE  
COMMISSIONERS  
FOR  
DRAINAGE AND SEWERAGE,  
INCLUDING  
REPORT OF ENGINEER.



BOSTON:  
PRESS OF W. L. DELAND & SON,  
Congress Building, 4 Post Office Square.  
1880.



# REPORT

OF THE

## Commissioners for Drainage and Sewerage.

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*To the Honorable, the Mayor, Board of Aldermen,  
and Common Council of the City of Newton.*

The undersigned, Commissioners for Drainage and Sewerage for the City of Newton, submit this report of their doings in obedience to the orders and directions of the City Council.

Soon after the appointment of the Commissioners they entered upon the discharge of their duties and selected Mr. Edward Sawyer, of the firm of Shedd & Sawyer, as the engineer to make the surveys and to aid them in their investigations.

It soon became apparent, after the consideration of the subject had been entered upon, that in order to establish such a system of sewers as should be sufficient for the requirements of the city, legislation would have to be obtained from the General Court, and at our suggestion, the City Council authorized the Mayor to apply for the same. The Commissioners appeared with the Mayor and City Solicitor before the legislature and procured the enactment of a statute, being chapter 144 of the Acts of 1877. As this law did not confer all the authority which was necessary, and as it became manifest upon further surveys and examinations that it would be both economical and desirable to extend the main drain through a portion of the town of Watertown, another application was made to the succeeding legislature which resulted in the enactment of chapter 63, of the Acts of 1878.

At the request of the Commission, the City Council, in 1877, appropriated three thousand dollars towards defraying the expenses of the Commissioners in performing the work assigned to them. Of that appropriation there was expended only the sum of nine hundred and thirty-three dollars and fifty-nine cents, and the balance was transferred by the city government and expended for other purposes. In 1878 a further appropriation of two thousand dollars was made, and this latter sum, by the forbearance of our engineer, enabled us to complete the work, without asking for an additional grant of money.

The engineer completed his surveys and submitted to us his report on the day of its date, November 30, 1878, at which time the amount of his services and expenditures exceeded somewhat largely the last appropriation of two thousand dollars, and for which sum we gave him a certificate of approval. After receiving and examining that report and the accompanying plans, we requested the engineer to consider certain matters and to present his views in relation to the same. This he did — which rendered necessary a further study of the subject and the re-writing of considerable portions of the report in order to have those matters treated of in their proper connections, and the same was completed, as it now appears, within the present year. The amount of Mr. Sawyer's charges and services was in excess of both appropriations, but as your Commissioners wished to avoid asking for a further allowance, with which desire he sympathized, he very generously waived a just claim for further compensation amounting to several hundred dollars. The surveys which had been previously made by Mr. Sawyer in establishing the water-works were used to a considerable extent in the prosecution of this enterprise, and materially lessened the expense which must otherwise have been incurred.

Different methods of drainage and of disposing of sewage have received our attention, but after full consideration of the subject, we are of the opinion that the system of main

drains and lateral sewers, as fully set forth in the report and plans prepared by the engineer, which are herewith submitted, is the one which will, in view of all the circumstances, best subserve the requirements of our municipality and of its citizens. We therefore recommend its adoption. In doing so we do not wish to be understood as expressing the opinion that no deviation can be made, in the execution of the work, from the general plan proposed. On the contrary, as it is probable that many years will elapse before it will become necessary to construct the works to that extent and completeness which is contemplated they will finally assume, it may be found to be advantageous, in an economical point of view, not to adhere strictly to the plan at the outset. For instance, we are of the opinion that, if it shall be found to be desirable to build a drain for the benefit of portions of Wards 1 and 7, for a considerable period of time before it shall become necessary to largely extend the sewers into other parts of the city, then the construction of that section of the main drain, shown on the plans, as extending from the vicinity of the brook, near the former site of Brackett's coal wharf, to deep tide-water near the Arsenal, may be deferred, and a temporary wooden outlet be laid into Charles river, near the mouth of that brook. This the city has the right to do, subject only to the restriction that a public nuisance be not created. If this be done, then the estimated expenditure of one hundred and seventy-five thousand dollars for that portion of the work, or the smaller expense for a wooden trunk, as hereinafter suggested, may be postponed for several years, thereby saving to the city the annual interest on the cost thereof. In view of the small percentage of house sewage which would be discharged from that outlet into the river, it is not probable that any inconvenience or anything detrimental to the public health or comfort would result from the same. But as a measure of precaution it might be eminently proper that the whole flow of the brook should be turned into the sewer just before it empties into the river, and thereby largely dilute



what might otherwise be objectionable matter. The experiment is one which can be safely made. The whole subject will at all times be within the control of the city authorities, and whenever indications shall appear that the discharge into the river at that place may prove detrimental, either to health or property, the main drain can be extended to the ultimate terminus near the Arsenal. The construction of the main drain may properly be commenced in Maple Street, near the brook, and until the lateral branches shall be considerably extended there will consequently be but a small quantity of sewage to be disposed of. The knowledge to be derived from experience will indicate the length of time during which the drain may be discharged into the river at this point. There can be no question that the extension of the sewer to a point near the Arsenal may properly be postponed until after the construction of other portions of the work.

The Commissioners have carefully considered whether it might not be advantageous, in a financial point of view, to postpone the construction of that portion of the main drain which is indicated to be built across the marsh to the deep tide-water, of bricks, and of the dimensions as set forth in the engineer's report, for a period of fifteen years or more. But if, upon trial, it should be found to be necessary to have an outlet at that point, then to construct that part of the drain of timber and of a smaller size; and as the same would be below the level of ordinary high tides it would be preserved for many years. The distance is about five thousand feet. A wooden drain six feet square inside would undoubtedly be adequate for the carriage of the sewage for the period above-named, perhaps even for a longer time. If this should be done there would be a material saving in the first cost of construction. The land damages would be the same, but the cost of excavation would be somewhat less. We estimate the cost of such a wooden trunk at the sum of seventeen thousand five hundred dollars, which, with the cost of land and excavation would amount to about one hundred and thir-



ty-five thousand dollars, which would be about forty thousand dollars less than would be expended in the construction of the full size brick drain. If this should be done, then it might be well to build a brick drain from the lower terminus of Maple Street, near the brook, to connect with the upper end of the wooden drain, such portion to be only six feet in diameter instead of the size given by the engineer. The length of this part of the route is about sixteen hundred feet. The smaller drain would not cost as much as the larger one by eight thousand dollars or more. The two changes would make a total saving of nearly fifty thousand dollars; and this sum invested and the interest thereon compounded until the time shall arrive when it would become necessary to reconstruct the drain of the size and materials stated by the engineer, the same would amount to more than would then be required to defray the cost of the new work, which would probably not exceed the sum of seventy-five thousand dollars. The only question thus far presented in the consideration of this portion of our subject, is that of economy. The putting in of the wooden structure will not be an experiment, as similar drains in neighboring cities have been in use for many years with satisfactory results.

But there is another consideration why so much of the drain as will extend below Maple Street should be built in the manner just indicated. If the method of disposing of sewage now generally pursued shall be ascertained by scientific investigations and experience to be the only practicable way of dealing with it, and if population and manufactures shall increase as rapidly during the next twenty-five years as they have in the past quarter of a century, the disposal of the waste matter of the sewers will become a more serious and difficult problem than it is at the present time. The large sewer now being constructed by the city of Boston is not designed for the removal of any considerable portion of the sewage from either Newton or Brookline. And we do not learn that the authorities of Boston have as yet originated, or

seriously contemplated the construction of a system of drains which shall be adequate for the disposal of sewage from any considerable portion of the territory outside of its own limits. It is a question of considerable moment whether, for many years longer the sewers of Boston, Cambridge, Somerville, and Brookline can be safely permitted to discharge their contents into Charles river. If not, then objections may be made to the introduction of sewage from Newton, Watertown, and Waltham, into that stream. It is to be regretted that the whole subject of the drainage of Boston, and of its neighboring cities and towns, has not been committed by the authority of the State to a general commission, having power to prescribe a system for the whole metropolitan district, and to compel its adoption. But this has not been done, and it is manifest that for a term of years, whose limit cannot now be foreseen, the territory west of Brookline and Cambridge must be allowed to drain into the river. And we do not apprehend that any serious inconvenience will result therefrom until after the population shall become much more numerous and dense than it is at present. But what is to be apprehended is, complaints which may arise from the accumulation of sewage matter from other and larger sources, in the river and harbor below.

The fact that it is now impossible to foresee what may be required in the future is one important reason why the construction of a large and permanent drain leading from Maple Street to a point near the Arsenal should not hastily be entered upon. The outfall at that point will be at so low a grade that it will be impossible to connect that terminus of the drain with any drain to be constructed through Boston, so as to receive the sewage from Newton without resort to pumping, the expense of which should be avoided if possible. But if pumping must be resorted to, then it will be desirable that the large quantities of storm-water must be discharged from the sewers before arriving at that point. By an exam-









ination of the profile\* it will appear that in the lower portion of Maple Street it is designed to construct the drain with a descent of fourteen feet within the distance of about three hundred feet. In the line of this descent and near its upper portion is the proper place to commence the six foot brick drain to connect with the wooden drain below, which we have already indicated will be of sufficient capacity to meet all reasonable requirements for at least fifteen years, and probably for twenty-five years. If, at the end of such period, the discharge of the sewers into the river shall not be found to be so objectionable as to require a discontinuance of the practice, or a modification of the same so far as to exclude the dry-weather sewage, then, whenever required, the building of the larger drain in place of the smaller brick and wooden structure may be effected. And by the time when the smaller drain shall become inadequate, we believe it will be definitely determined whether the sewage of Newton can or cannot be permitted to flow into the river. But if it shall be ascertained that the discharge of the principal portion of the sewage into the river must be stopped, then there can be constructed an intercepting sewer from Maple Street, by such route as may be found to be best, to and along the northerly slope of Brighton Hill to Faneuil, there connecting with a drain leading through Boston. This would also provide for the drainage of the northerly side of that hill. We think it is probable that this sewer could be constructed at such an elevation as would allow the sewage to pass from it, without pumping, into the connecting sewer. This intercepting sewer should have a capacity sufficient to receive the ordinary sewage, but should not be designed to carry off large quantities of storm-water, which should be discharged either through an outlet into the river near the brook, or by way of the drain across the marsh. As it must not be assumed that any considerable portion of the rainfall in Newton will be conveyed

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\* The profile and plans of the Engineer are on file in the office of the City Clerk.

by sewers through Boston, into the harbor, and we have not instituted any surveys concerning such intercepting sewer, and therefore do not submit any plan of the same, as we could not have done so without an additional appropriation having been granted, and the requirement for such a sewer is not sufficiently manifest at this time to call for further consideration from us.

Although drains of the size recommended by the engineer, above the point in Maple Street previously mentioned, will not actually be required for a number of years, yet it will not be expedient to construct them of any smaller dimensions than will be wanted within twenty-five or thirty years at least. A large part of such drains must necessarily be laid deep in the ground; the cost of excavation will be large, and it would be unwise, in view of these facts, within that period to incur the expense of re-opening the ground and reconstructing the sewers, besides subjecting the citizens to the annoyance which would necessarily arise from the obstruction of the streets during the progress of the work, and also causing no small injury to the surface of the streets. Could suitable sewers be built with only comparatively slight excavations and in a favorable soil, then it might be expedient to introduce a system of smaller drains than the one recommended. But as the opposite from this will be the experience of Newton in constructing its drains, it will be wise to largely anticipate future wants.

We have endeavored to recommend for Newton a system of sewers which may hereafter form a portion of a more general system, but anything which may be adopted by our municipality in this particular must necessarily be somewhat contingent, as to its forming a part of a greater whole, upon the developments and investigations of a not remote future. While we believe that the plan proposed is the only one which it would be wise to adopt at the present time, yet in view of what may possibly be required at no distant day, and of what scientific research may unfold, we believe that com-



mon prudence and sagacity require that only such portions of the work should be entered upon as may from time to time become necessary.

It is not to be assumed, as is apparent from the views herebefore expressed, that the plan proposed is to be adhered to in every particular. On the contrary, in the execution of the work, it will probably be found that in some respects changes can be advantageously made. For instance, the route of the main sewer for Wards 2 and 3 is not given as the only one which is suitable. The engineer has indicated on his plans the general direction and course of that portion of the drain, but neither he nor the undersigned desire to be understood as prescribing the precise route. It was necessary to indicate a line, and this has been done, but it may be varied and the drain be constructed where the least cost of construction and the smallest injury to estates shall in a measure indicate, due regard being had to the local advantages to be derived from the drain itself.

The engineer in the plan proposed has taken into consideration the occurrence of freshets, when it is probable that the capacity of the main drain and the principal branches will be inadequate to carry off the sudden and large accumulations of surface-water, and he has suggested that the sewers be permitted to overflow, at suitable points, before reaching the outfall, the extent of such overflow to be determined by the local circumstances at each point. We desire to emphasize the caution which the engineer has expressed as to this matter. And we regard his suggestion of so constructing the lateral branches that at points where the surface-water can otherwise be readily disposed of, only a limited portion of such water should be admitted, as being the method which will prove the more beneficial.

The very full and able presentation of the subject of drainage, and of the different methods which have been practised in other countries, as set forth by the engineer in his report, renders it unnecessary for us to enter into any lengthy dis-



cussion of the matter. Yet in view of its importance, of the attention which has recently been given to it, and of the experiments which have been commenced in our own neighborhood within the past few months, we deem it to be proper for us to state somewhat briefly the results of our observations and the conclusions at which we have arrived.

It is generally known that for a year or more the town of Lenox, in this State, has had in use drains by which the sewage is disposed of by filtration through tile pipes, and the surrounding soil prepared for that purpose. The situation of that town, the small amount of its sewage, the probable limited increase of its population, the large areas of suitable land which can there be obtained for the purpose, without being in close proximity to numerous dwelling houses, and the limited time which has elapsed since that experiment was undertaken, would not warrant us in recommending the adoption of a similar method for Newton, whose conditions and topography are somewhat peculiar.

During the present year, and within the past few months, the State, at its women's prison in Sherborn, has constructed and put in use a system of drainage under the direction of George Waring, jr., Esq., a well-known sanitary engineer. The prison has about five hundred inmates. The sewage, passing by drains outside the enclosure of the prison is there discharged into receiving basins, where the solid matter is retained; the liquid then passes by means of a large pipe into a series of tile pipes, of two inches diameter, laid in rows six feet apart and ten inches below the surface of the ground; from these pipes the sewage, escaping through the pores and at the joints, percolates through the soil, which has been prepared for that purpose, and passes downward to another series of similar small pipes, laid in rows twenty feet apart and four feet below the surface, and those pipes discharge into an open trench. What flows from these pipes has the appearance of pure water. These works have been in operation only three or four months, and that period of time has

been insufficient in which to test their adaptation for the purpose for which they were designed. We have examined the same, and from what we have observed and heard at the time of our visit, we were not favorably impressed. There was a very strong and disagreeable odor escaping from the ground in which the sewage was deposited, and we were told that, at times, the same was wafted into the prison and was exceedingly offensive. The tract of land in which the series of tile pipes are laid embraces about two and one-half acres, and is situated about forty or fifty rods from the buildings. It appeared to us that the character of the soil was not well adapted to the purpose, being wet, and not porous, and that it will soon become necessary to enlarge the filter-bed so as to contain an area of from five to eight acres, or even more. It will therefore be seen that unless the soil be light and well adapted to the purpose, more than an acre of land for a filter-bed will be required for every one hundred inhabitants; but under the most favorable conditions as to soil, even if the bed be made to a considerable depth, taking into account the long winter season of our northern clime, we do not believe that it will be advantageous to have less than an acre of filter-bed to every two hundred inhabitants. The liquid contents of the sewers is not, however, the only substance to be disposed of. The solid matter, or sludge, which is collected in the receiving basins, must be got rid of. It is worthless as manure. The quantity which would accumulate from the drainage of a city or large town would not be inconsiderable, and the expense of its removal would not be trivial.

Will such a system meet the requirements of Newton? Provision for the sewage from a territory to be occupied by not less than twenty thousand people must be made, otherwise the scheme would prove to be inadequate within a comparatively short period. This would require the appropriation of one hundred acres of land, certainly not less than fifty acres, for filtration, either in one or several lots. We are not

aware of any land in our city suitable for such a purpose, which can be so appropriated and which would be sufficiently remote from residences so as not to become a public nuisance. If there be no such land within the city limits, it cannot be expected that any neighboring town would assent to the discharge of the drainage of Newton within its borders, provided it could readily be done. And we do not presume that it is practicable to dispose of the sewage from our municipal limits by this method, without resort to pumping.

There is also a strong probability of another serious objection which would arise if this method should be adopted. It is evident that if the sewage gases shall escape from the filtration bed and be borne by the winds from an eighth to half a mile, they will be highly detrimental to the health and comfort of those residing in its neighborhood. That this will not be the unavoidable consequence cannot be safely asserted from the results thus far realized at Sherborn. It has there been ascertained that the flow of the sewage from the prison into one acre of land containing the series of pipes, for a continuous period of only four days, did not only thoroughly saturate the soil, but it also rose upon the surface of the ground and became stagnant, and as an inevitable consequence, large quantities of deleterious gases escaped into the air. If this be the result from the operation of the works for less than four months, what will be the effect when they shall have been in use for several years?

Before passing from this part of our subject there is a serious objection, to which allusion has already been made. The sewage from several portions of the city could not be disposed of in this way, even within the city limits, unless it should first be raised by pumping to a higher elevation. It would be somewhat expensive to do this, and from the best information which we have obtained, and the investigations thus far made, it would not be expedient at this time to adopt such a method of disposing of sewage in our northern

situation, where for six months in every year there is no growth of vegetation, which would take up the sewage for plant nutriment. Furthermore, we do not think it would be feasible by this method to dispose of any considerable portion of the surface-water of the streets, gardens, or grounds. So far as this may be desirable, it is apparent that this system would not meet the reasonable expectation of our citizens. The necessity for the removal of the surface-water by sewers is not so manifest now as it will be when the population shall have doubled or quadrupled and the lands have been applied to such uses as shall cause all water thereon to run quickly off into the streets. Any system of drainage which shall not provide for the reception of considerable quantities of surface-water in certain localities will, in the end, prove to be inadequate and a source of disappointment.

We are aware that this system has a respectable number of advocates and the same has recently been freely discussed, and for these reasons the subject has been carefully reviewed by us and is here more fully treated of than it would otherwise have been. We have not perceived any cause for dissenting from the opinion of our engineer; on the contrary, a re-examination of the subject has strengthened us in the conviction that the general views and conclusions expressed by him are correct. Nevertheless, it will be the part of wisdom not to be unmindful of the experiments and investigations now being made, as the results may be such as to justify a modification of the system recommended. It is certainly desirable that some means be discovered whereby, without disproportionate expense, the purification of sewage by its application to the land, without being harmful in a sanitary point of view, can be secured. If, however, there be an urgent demand for drainage, it will not be wise to await the results of incomplete experiments, but drains should be constructed upon the plan which, from practical tests, gives promise of the greatest utility. And if, in the judgment of the public



authorities of Newton, it be deemed necessary to enter at once upon the construction of drainage works, we unhesitatingly say that the plan proposed by the engineer, as modified in this report, is the one, in the light of present knowledge, best adapted to meet the wants of our city and citizens.

It will be observed that the engineer has not, in his report, made provision for the draining of the two villages at the Upper Falls and the Lower Falls, as the sewage from those places could not be carried by gravitation into the main drain. Should the method now in use at Sherborn afford sufficient promise of utility in our climate, it may be found to be practicable to apply that system, with some modifications, to those villages, provided land suitable for filtration beds, sufficiently remote from dwelling-houses, can be obtained for that purpose.

Before closing this report, your Commissioners beg leave to call your attention to the authority conferred by chapter 69, of the statutes of 1878, to establish grade lines for drainage and sewerage, within such portions of the territory of the city, as may from time to time be found to be expedient. The exercise of this authority is vested in the Board of Aldermen. The statute provides that after such lines shall have been established, no building shall be erected or cellar constructed, below such grade lines.

It is unnecessary to recite here all the provisions of the statute; but if they be applied and enforced, it is manifest that the operation of the law will greatly tend to promote the public health, and, in a pecuniary point of view, be highly advantageous to the city.

The failure to establish such lines in the cities of Boston and Cambridge has cost those cities respectively large sums of money, and they have been compelled, at great expense, to remedy evils which ought to have been prevented. Newton should learn from their experiences not to delay action, but

should at once enter upon the work of establishing lines as authorized by the statute. Already houses have been erected on lands in various parts of the city at too low a grade, and if the continuance of such a course be not stayed, our city, at no distant day, will be involved in a matter of no small difficulty and cost. After the difficulty shall exist, the city authorities will be brought in direct conflict with the owners of the houses on these low lands, and although they may have the power granted to them sufficient to enable them to successfully deal with the grievance,—yet it is almost an invariable rule that any interference with private property, in such cases, is at the cost of the public. The recent experience of Cambridge is a good illustration. Under a special statute, that city required certain large tracts of land to be filled to a prescribed grade, and the houses thereon to be raised in conformity therewith, and as the owners did not comply with the direction, the city caused the work to be done, and thereupon assessed the cost of the work on the respective estates. But the legislature, in order to protect the citizens from hardship or oppression, had inserted in the statute a provision that any person, instead of paying his assessment, might surrender his estate to the city and be paid its value, independent of the benefit arising from the work. The result was that the city became the owner, by surrender, of estates to the amount of about a quarter of a million of dollars, and was compelled to pay for the same an amount greater, in many instances, than the property with the improvements could be sold for by it. And in some instances, the city abated seven-eighths of the particular assessments, in order to effect settlements and avoid surrenders.

We assume that our labors as Commissioners terminate with the presentation of this report. The duty assigned to us was not free from difficulty, but we trust that the manner in which it has been discharged by us will be conducive to the interests of the city and of our fellow-citizens. In clos-

ing, we cheerfully express our approval of the attention which the engineer has given to the subject, and our appreciation of the valuable assistance and suggestions which we have received from him.

All of which is most respectfully submitted.

CHAS. ROBINSON, JR., }  
E. W. CONVERSE, } *Commissioners.*  
J. FRANKLIN FULLER, }

NEWTON, December 27, 1879.



## REPORT OF THE ENGINEER.

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TO HON. CHARLES ROBINSON, JR.,  
E. W. CONVERSE, ESQ.,  
J. FRANKLIN FULLER, ESQ.,

} *Commissioners on Sewerage for the  
City of Newton.*

GENTLEMEN : — I now present my report in relation to the matters which you have referred to me.

### THE DISPOSAL OF THE SEWAGE

is the first subject for consideration.

The principal means of disposal of water-carried sewage may be divided into three classes.

1st. Treatment for coagulation and subsidence, by the aid of chemicals.

2d. Application to land.

3d. Discharge directly or indirectly into the sea.

### TREATMENT BY THE AID OF CHEMICALS.

This treatment, in some of the numerous "precipitation processes," has been practiced to some extent in England for more than thirty years. The hope at first entertained of making valuable manures in this way, has now been generally abandoned. The sewage is clarified by the removal of part of the matter in suspension, but the fertilizing elements are chiefly in solution and are not extracted to any great extent by these processes. Hence the precipitated sludge has but little value as manure. Formerly, farmers would sometimes pay a trifle for some of it for use near where it was produced.

"At Birmingham there is now no serious attempt to sell

the sewage-sludge, but it is at great cost, £14, 10s. per acre, dug into a portion of the farm land, at a rate of about one acre per week ; or at a loss of about £750 a year. At Leeds, Bradford, Bolton, and at Coventry, thousands of tons of extracted sewer-sludge remain to cumber the works."

Perhaps the most successful application of a precipitation process, in a sanitary point of view, at present in operation, is at Coventry, in England.

This city has about forty thousand inhabitants, living in ten thousand four hundred houses. Private water-works supply about seven hundred and twenty thousand imperial gallons of water per day ; there are also twenty-one public wells and many private wells, from which a considerable number of the people obtain water, so that the consumption for domestic purposes is estimated at twenty-five gallons per day per inhabitant.

There are five thousand water-closets and numerous silk-dying works, breweries, oil and varnish works, etc., from which refuse liquids pass into the sewers. Large quantities of subsoil water also leak in, so that the ordinary daily flow through the sewers is two million gallons, or fifty gallons per day per inhabitant.

The "General Sewage and Manure Company, Limited," took the sewage and a few acres of land under a fourteen years' lease, at a rental of £75 per annum. Works were built at a cost of twelve thousand pounds, and got into operation about five years ago. The sewage was first strained, then treated with chemicals and run into large tanks to allow the sludge to settle ; after which the water was drawn off and run through a filter consisting of about four and a half acres of loamy land with sub-drains about five feet deep. These drains discharge into the river Sherbourne, which is a small and rather sluggish stream about ten feet wide. Its natural flow is sometimes not more than half as large as the volume of sewage-water turned into it from the Coventry works. In other words, it is a stream about twice as large as Cheese-cake brook, at West Newton.

It was reported that the sludge amounted to about thirty tons per day, and cost, in its wet state, about 4s. 10d. per ton. A part of it was dried by centrifugal machines and artificial heat, and in this state it cost £2, 10s. per ton. The sludge could not be sold, either wet or dry, at anything near its cost, and hence the drying by artificial heat was abandoned. In January, 1876, after special exertions, three hundred and fifty tons of sludge direct from the subsidence tanks were taken or ordered by neighboring farmers, at 3s. per ton, or sixty-two per cent of its cost.

In April, 1877, the engineer of the company reported that the cost for each million gallons of sewage treated was £4, 14s. He also says: "The sales of manure, according to the books, have been at rates varying from 4s. a ton for sludge containing about sixty-five per cent of moisture, to 40s. a ton for dried manure containing ten per cent of moisture." According to this, the cost for treating two million gallons per day would be £3,430 per annum, and from all the information attainable, it seems probable that the company lost at least £3,000 every year.

It might reasonably be inferred that the company could not long continue at this rate; and in the latter part of 1876, the Town Council appointed a committee to investigate matters, and they reported in favor of continuing the system. In May, 1877, a new contract for carrying on the works was made with the "Rivers Purification Association, Limited." The terms of this contract are not made public.

After the sewage is strained, it is dosed with a cheap salt of alumina (obtained by treating the shale found in the coal and iron-stone formations with sulphuric acid); lime is then added to the mixture, and subsidence and filtration follow, as before described. The cost of the chemicals is about £1, 13s. per million gallons of manufacturing sewage, and about £1, 2s. 6d. per million gallons of domestic sewage. It should be observed that this cost is for sewage diluted to the rate of fifty gallons per day per inhabitant.

The chemical treatment is not continuous, however; all the sewage from 11 P. M. till 5.30 A. M. flows through the settling tanks and on to the filtering area without any admixture of chemicals.

The drying of the sludge by artificial heat is definitely abandoned, and no return from sales of sludge is now relied upon.

In applying this process, it is desirable to find a location for the works to which the sewage can be carried by gravitation, and at a good distance from other buildings, so that under proper restrictions, the odors will not make a nuisance. As the effluent water after the treatment retains a large part of the soluble and putrescible sewage matter, unless it is thoroughly filtered through land, it must be carried in covered sewers to some stream or body of water large enough to dilute it with several times its own volume of nearly pure water.

In the case of Newton, there may be some question whether locations sufficiently remote from buildings can be secured. The best approximation would seem to be as follows:—carry the sewage of Wards 1 and 7, and part of Ward 2, to the marsh between Newton and Faneuil, and the rest of the sewage to the bank of the Charles river at the mouth of Cheese-cake brook. This could be done without pumping, and probably the effluent-water could safely be discharged into the river in both cases, though some people might be unduly alarmed and object to a discharge at the last-mentioned place. The sludge would have to be carried away to land dry enough to receive it without offence. At present the nearest houses are about a quarter of a mile from each of these locations. Probably objections, whether reasonable or not, would be made by the owners of adjoining lands against the treatment of sewage on a large scale at either of these places.

The first cost of conducting the sewage to these locations, and of land and plant for carrying on the process, would

probably be as great as for carrying the same amount of sewage to an outfall opposite the Arsenal grounds, as hereinafter recommended.

A large part of the usefulness of an ordinary system of sewers consists in its ability to carry away the rain-water from the streets. The first run of street-water at the beginning of rainfalls is often more filthy than ordinary dry-weather sewage.

A very large part of the sediment deposited in streams by sewers comes from the streets during storms. Hence precipitation works should be large enough to take care of a storm-flow considerably greater than the ordinary dry-weather run.

#### APPLICATION TO LAND.

The application of water-carried sewage to land, by irrigation or filtration has never been made on a large scale in this country ; but sewage irrigation has been thoroughly tried for about twenty-five years in England, where it has been more extensively employed than the precipitation processes ; and the Craigentenny and other meadows near Edinburg have been irrigated with sewage from that city for about one hundred and twenty years.

Strenuous efforts have been made to secure the best sanitary results by this process and at the same time to make it profitable, or at least self-supporting. It was believed that sewage contained fertilizing elements of great value which, instead of being made the means of dangerous pollution of rivers and harbors, might be utilized by applying the sewage to land.

But many of the difficulties were unforeseen or underrated ; and although this process is capable of giving better sanitary results than the precipitation processes, extended trials by many cities and towns in England seem to show that, commercially, it is a failure.

In an agricultural view, however, considerable success has



attended the application of sewage to some of the coarser grasses and vegetables which absorb large quantities of water. The English "Local Government Board" states that Italian rye-grass seems to be the most advantageous crop for this purpose, "as it absorbs the largest quantity of sewage, occupies the soil so as to choke down weeds, comes early into market in the spring, (February 12, in one instance,) continues through the summer and autumn, bearing from five to seven cuttings in the year, and producing from thirty to fifty tons of wholesome grass upon each acre. The area placed under this crop must, however, have reference to local means of consumption, as the young grass will not keep nor bear long carriage. It is most profitable for feeding to milch cows. A dairy and sewage farm should, therefore, whenever practicable, be associated. In a dry and warm summer, good hay may be made which will be sweet and wholesome." In one instance, in 1876, forty-five tons of hay were made from one cutting of eighteen acres of rye-grass.

In India, Spain, Southern France, and Northern Italy, irrigation on a large scale has proved successful, both financially and agriculturally. But great allowance must be made for difference of circumstances. These countries have torrid climates and thirsty soils. In England and the United States the conditions are different. Hence there is great force in the statement of Prof. Way, as an argument *for* the system, agriculturally and commercially, in India, and *against* it in England and the United States: "Under given conditions the sewage is valuable merely as water, and under other conditions the water is so objectionable that you would rather lose the manure than be obliged to have the water."

For this system a suitable tract of land must be obtained by purchase or lease. The conditions to secure the best results are numerous. It should lie so low that the sewage will reach it by gravitation, or the process of pumping must be resorted to. It should be of sufficient area for present and increasing future demands; and it should have a light

porous soil, either naturally or artificially under-drained. It should not be so near the town as to be a nuisance to the inhabitants, nor so distant as to greatly increase the expense of conveying the sewage—say one to two miles away—and the direction of the prevailing winds should also be considered. It should be skillfully laid out for its intended purpose, and thereafter managed with unremitting skill and care.

Where the principal aim has been to get large agricultural results from the sewage, in the best English practice, it has been applied at the average rate of about three thousand United States gallons per day per acre.

As the effort to make sewage irrigation profitable has generally failed, and it is difficult in many places to obtain a sufficient area of land for the purpose, a new plan for the purification of sewage by its application to land, suggested by Dr. Frankland, and called "Intermittent Downward Filtration," has been tried in several places.

This plan undertakes to purify the sewage of about one thousand persons on one acre of land, or ten times as much as is ordinarily provided for by an acre in broad irrigation. But so far as I know, it has not been tried alone at any place permanently. At Merthyr Tydfil, in the south of Wales, this plan was followed for a few months while the irrigation fields were preparing; but there, as at Kendal and Abingdon, in England, the ordinary use of the filtration areas is in combination with broad irrigation. The three places above-named are the only prominent ones where the scheme is now in operation. Mr. Bailey Denton, the engineer who planned the works for each of these places, has recently presented the works at Abingdon, which were the last to be finished and which have now been in operation about a year, as a model for economy and "a favorable instance of intermittent filtration combined with surface irrigation."

In intermittent downward filtration the successive filling of the soil with air and then with sewage, is relied upon to

bring the particles of sewage into minute contact with particles of air so that the putrescible matters shall be oxidized and destroyed. This, however, is but a systematic development of a process which goes on, to a considerable extent, in ordinary irrigation.

Abingdon "has a population of a little above six thousand, and a ratable value of about £14,750. The land selected for the cleansing of the sewage, and purchased by the urban authority, is distant half a mile from the town."

Mr. Denton says, "thirty-four acres of land have been prepared," by under-draining, grading, etc., "six and one-half for intermittent filtration, and twenty-seven and one-half for surface irrigation, and the total outlay, including delivering conduit (pipes) as well as chambers and distributing earth carriers, cart roads, barrow paths, and fencing, wages of clerk of works, and charges of engineer, has not exceeded £2,550, or an average of £75 per acre. The cost of preparing the land for intermittent downward filtration did not reach £85 per acre, while that of preparing it for surface irrigation cost over £70 per acre, including in each case a proper proportion of attendant charges. The soil of Abingdon is not more suitable than that of Merthyr and Kendal, yet it will be seen that the actual cost is only about one-third of that represented in the report referred to as the case at Kendal."

If we assume that it is proper now to provide works for Newton which may in the future be readily extended so as to be suitable for a population of forty thousand, it would be needful to obtain an area of about four hundred acres on which to purify the sewage by broad irrigation. On this area some provision should be made to purify the sewage while it is not needed by the crops. For this purpose, filtration areas may be constructed, or "waste land" set apart, or reservoirs built to receive the flow when it cannot otherwise be disposed of.

If it were possible to dispose of the sewage by filtration areas alone, a much less area than that above given would



suffice. The estimate that the sewage from one thousand persons can be disposed of upon one acre of land is made by the friends of this plan. The experience obtained at Merthyr Tydfil indicates that under ordinary circumstances the sewage of five hundred persons would be all that could be disposed of upon an acre, for a series of years, without choking the land. To be on the safe side, therefore, it would be necessary to provide eighty acres for filtration *per se*.

I do not know of any suitable tract of even eighty acres, in or near Newton, whose use for this purpose would be allowable, and where the sewage could be delivered without pumping.

Judging from the experience abroad, which has been very extensive and decisive, we must dismiss from our minds all idea of obtaining a profit from sewage farming.

In Newton the dry-weather sewage, including subsoil-water which will leak into the sewers, will probably amount to at least seventy-five gallons per day, or one hundred and fourteen tons per year, for each inhabitant in the sewered districts. The fertilizing elements in the total excreta of an average individual, per annum, have been estimated by European chemists as follows:—

Ammonia,	10 to 12½ pounds,	say 11 pounds.
Phosphoric acid,	„ 2½ „	
Potash,	„ 1½ „	

The value, in Boston, of the above in a crude and impure condition fit for agricultural use only, as in guano or bone dust, may be a little over \$2.00. Distributing this through one hundred and fourteen tons of sewage-water gives less than two cents' worth of manure to a ton of water; and this is a maximum estimate, as the rate of dilution will probably be greater than here reckoned in dry weather, and certainly much larger in wet weather. This view is sustained by the analysis of the sewage of Boston and Worcester made for the State Board of Health. By these examinations it was found that the fertilizing matters in a ton of the dry-weather sewage of Boston, compared with fertilizers sold in the mar-

ket, were worth about one cent, and in the sewage of Worcester about seven-eighths of a cent.

Small as the value of sewage is thus seen to be, it cannot all be made available to the growing crops. Under the careful and remarkably successful management of Mr. Hope at Romford, about one-third of the nitrogen combined in the ammonia of the sewage has been availed of by the crop, and under other circumstances nearly seventy per cent of the nitrogen has been found escaping in the effluent-water.

The utilization of sewage in this country, on a large scale, is quite untried, and under the different circumstances existing here new difficulties are likely to arise. It is quite clear that, for the sake of economy, the sewage for Newton should be discharged into the tidal portion of Charles River, if it is found to be practicable to do this without making a nuisance.

#### DISCHARGE DIRECTLY OR INDIRECTLY INTO THE SEA.

Probably forty-nine fiftieths of the water-carried sewage of the civilized world is disposed of in this way.

The objection often made that this method wastes valuable manures, is shown by the facts above quoted to have but little weight.

The objections on the score of the fouling of the waters and filling up the channels of rivers and harbors, are of more or less importance, depending on the circumstances in each particular case, and chiefly on the amount of sewage matter comparative to the volume and strength of the current of water into which it is discharged.

It was supposed that arrangements might be made at some future time, for discharging our ordinary dry-weather sewage into an extension of the proposed Boston main drainage, at some point near the Watertown Arsenal, and discharging into Charles river only when the main sewer should be over-filled during storm. The Boston Sewerage Commissioners of 1875, proposed to start east from Cottage Farm, with a main















drain nine feet in diameter, and having its crown at grade eight ; that is, eight feet above mean low tide.

If a sewer of something near this size should be extended up to North Beacon Street opposite the Arsenal, rising one in twenty-five hundred, it would be practicable for us to unite with it.

But the present plan, as set forth in the Report on Improved Sewerage, July, 1877, is materially different. It provides for sewage from places west of Cottage Farm, as follows :

From Waltham,	1.81	cubic feet per second	=	108.6	cubic feet per minute.				
Watertown,	1.81	„ „ „ „	=	108.6	„ „ „ „				
Newton,	8.08	„ „ „ „	=	484.8	„ „ „ „				
Brighton,	27.14	„ „ „ „	=	1628.4	„ „ „ „				

A sewer thirty inches in diameter, will discharge the amount above allowed for from Waltham, Watertown, and Newton, viz., seven hundred and two cubic feet per minute, even at the low velocity of 2.4 feet per second, which is about the slowest that is sufficient to prevent the accumulation of deposits.

Sewers of the small sizes suitable for this scheme require so much fall in order to make them self-cleansing, that they could not drain any territory on the plain west of Newtonville, nor any of the river slope in the vicinity of the North Village, unless the sewage were raised by pumping ; and the capacity proposed would be only a small fraction of what is desirable even for the limited territory which they could reach by gravitation in Wards 1, 2, and 7.

Further, the Boston sewer will probably not be extended up to the vicinity of the Arsenal for many years to come. In the distant future, arrangements may, perhaps, be made for discharging part of the dry-weather sewage of Newton into it. It is obvious then that the Boston system cannot offer any adequate provision for our wants, and is not entitled to any further notice or consideration.

We can estimate with confidence what effects will be produced by the discharge of the sewage of Newton into Charles

river opposite the Arsenal, from an examination of the actual effects in many similar cases in this country and in Europe.

The quantity of water flowing in a stream at different stages, can be estimated approximately from the area and character of the territory draining into it, the rainfall, etc.

Substantially all the pollutions of streams come from the inhabitants and businesses which send their refuse directly into them, either through sewers or by surface drainage. Hence, most rural and village populations should be left out of account in an enquiry of this kind, as not contributing appreciably to the pollution of any stream.

In this connection, it is important to observe that much the larger part of the sewage nuisances in the civilized world are produced by refuse from manufacturing operations. It is true that there are many local nuisances, at outfalls of ordinary sewage; but most of them might have been prevented by better arrangements. There are also cases where small brooks are badly polluted in running through dirty villages. But the cases where rivers, even of the smallest size, receive domestic sewage enough to make any nuisance *after it is once mixed with the whole volume of the stream*, are rare. The Blackstone river below Worcester is probably the only one in this class in New England; and this case is, perhaps, the most instructive one that can be referred to in considering the discharge of the Newton sewage into Charles river.

The drainage area of Blackstone river, down to the outfall of the Worcester sewers, is about fifty-four square miles. The city has about fifty thousand inhabitants, of whom about forty thousand live in houses connected with the sewers. There is also rather a large inflow of manufacturing refuse, especially from woolen mills.

The result is, that the stream is polluted to a highly-objectionable extent. As it flows down the valley towards Pawtucket, it furnishes power for an immense amount of manufacturing, and it receives large quantities of filth from the mills and houses; but it receives good water from its trib-

utaries at a much more rapid rate. At Farmunsville, about ten miles below Worcester, the water is still bad ; but the dilution and other natural purifying agencies render the water tolerably good before it reaches Blackstone village, some fifteen miles further down-stream ; so that chemical analysis fails to detect any evidence of impurity sufficient to condemn the water at that place as unfit for domestic or any other use.\*

The drainage area down to Farmunsville, is estimated at one hundred and thirty-eight square miles, — down to Blackstone at two hundred and seventy-six square miles ; and the populations of the cities, villages, etc., now sewerage into the river above these places respectively, is estimated at fifty-one thousand and fifty-five thousand one hundred.

At Lonsdale, the river water has been used until recently, for all operations in the bleaching of the finest muslins.

Similar comparisons in regard to many other streams give like results, — allowances being made as well as practicable for differences in manufacturing refuse, — but it would take too much space to report them here.

I estimate the drainage area of Charles river down to the Watertown Arsenal at two hundred and eighty nine square miles. But one-third of the water down to Newton Upper Falls is diverted through Mother brook. Deducting seventy-three square miles on this account, we have two hundred and sixteen square miles as the area, contributing fresh water at the Arsenal.

But the quantity of tide-water which comes above Old Cambridge, is about twice as much as the ordinary flow of fresh water in the river ; so that there is three times as much water for diluting sewage, in this part of the river, (to say nothing about the tide-water below,) as if this were a fresh-water stream only.

At present, Charles river above tide-water is not materially

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\* Report State Board of Health, 1876, p. 84.

affected by house sewage. The slight brown tinge every where found in its water is of vegetable origin, and similar to the coloring matter of tea. The impurities noticeable at Watertown, come almost wholly from manufacturing refuse.

Considering all the facts, I am of the opinion that with skillful management the sewage of Newton can be discharged into the river, below low-water mark, near the Arsenal, for many years to come, without much objection or just ground for complaint, and I have no hesitation in recommending this as the most feasible plan.

It is true that the sewers will carry down considerable quantities of street mud and other solid substances, some of which may possibly be deposited in the bed of the river. But it should be remembered that the storm-water from this territory, has been carrying solid matter into the river from time immemorial, and the current has carried part of it on to the marshes and the remainder out to sea, so that there is no proof of any general shoaling of the river, since the first settlement of the country.

If, however, part of the sewage matter should settle in the river, it can be dredged up by steam power and carried by water to some suitable dumping ground, much cheaper and with much less offence than would be involved in any plan for settling in reservoirs and removal by hand labor and carts.

We have now to consider the best method of collecting the sewage, and conveying it to the outfall.

In the early discussions upon the utilization of sewage, when it was generally supposed that a mine of wealth existed in human wastes, the difficulty of separating this wealth from the great volume of water in which it was diffused was recognized, and the cry of "The rain to the rivers, the sewage to the land," arose among enthusiastic sewage economists. This, in its entirety, is impracticable. An attempt to accomplish it involves a double system of sewers throughout.

That such double system is rarely attempted, even in cases where the advantage would be much greater than can possi-

bly be the case in Newton, shows that the weight of experience is against this plan. It is expensive and complicated and likely to give unsatisfactory results.

The first run of street-water during a shower, contains accumulations of horse excrement, etc., and ought to be taken in with the house sewage. Any effort to separate the rainfall from other sewage after the first run, involves numerous connections and an arrangement of separating weirs between the two systems, by which a small run of water in the rain-water system, may be turned entirely into the house system, and a large run of water in the rain-water system, may be kept entirely out of the house system. According to this plan, two lines of sewers must be laid in every street, and connected with every house, unless it is arranged for the house system to take the rainfall from the roofs and yards, which, however, will not obviate the necessity for the second system to take street-water. This double system involves great expense, both in construction and in maintenance, and it has been found practically that with the most careful supervision it is almost impossible to prevent the tapping of house drains into the rain sewers, or the rain conductors into the house sewers, either by mistake or design, especially when the sewer into which the particular drain ought not to be entered, lies nearer to the premises than the proper sewer. To whatever extent these mistakes are made, the tendency is to defeat the effort to maintain separate systems.

If it is argued that the rainfall may go off as it has always done, we have to consider that individual owners of lands in growing places, are constantly changing and improving their property, and may at any time stop the ordinary surface flow of rain-water over their lands and turn it into the streets. Such action on the part of land owners cannot be prevented, and it often changes materially the conditions under which the city drainage is to be cared for. Once turned into the street in large volume, the rain-water must be taken care of



by sewers, because the damage which would result to property by any other course would be unbearable.

It is only where there are brook channels which may be reached by the rainfall, without passing over improved lands that it is practicable to dispense with sewers for the conveyance of rain-water.

It appears to me that the effort to secure a separate collection of house sewage will involve, eventually at least, a complete double system of sewers, and that this is too expensive and unsatisfactory, on the whole, to warrant its adoption.

We come then, to a consideration of the amount of sewage to be provided for in the single system of sewers.

The most important function of sewers being to remove filth, they should be so planned as to serve this purpose in the most effectual way, so far as is compatible with their other functions. At the best, a scheme of sewerage must be a compromise between somewhat conflicting requirements. To be self-cleansing during dry weather, when the flow in the sewers is comparatively insignificant, the channels must be narrow, so as to concentrate the streams. This tends to keep the sewers small. The effort to keep down the cost of works has the same tendency.

On the other hand, the proper provision for storm-water requires large sizes. In some localities, the sewers must be large enough to take all the water coming to them even in the greatest storms; and we have seen, that as a general rule, water which once gets into much-travelled streets must be carried away by the sewers. But in places like Newton, the water from large tracts of unoccupied land, which can conveniently be run into the brooks, and kept out of the sewers should be so treated. As far as practicable, the brooks should be kept separate from the sewers, except to avail of brook-water occasionally during droughts, to keep the sewers clean.

The most common rule, in the best practice in this country and in Europe, is to make lateral sewers of capacities to take

care of a rainfall of about one inch per hour, on the assumption that about one-half of this rain-water, or thirty cubic feet per minute per acre, will reach the sewers from ordinary city territory which is nearly level. If the ground varies materially from level, or if it is very compactly built upon, the capacities of the sewers should be suitably increased.

The carrying capacity of large branches and mains is made less than the total capacity of their feeders, by amounts depending on the differences in character and distance of the different sub-districts, in consequence of which the tributaries will seldom all run full at the same time.

Experience indicates that some parts of a system of sewers so arranged may be overcharged for a short time, perhaps once in three or four years on an average, in consequence of heavy rains on ground frozen or already saturated, rain-falls exceeding one inch per hour, etc. At such times, damage will result from the washing of streets, flooding of low grounds, cellars, etc. In most cases, it seems better to take the risks of this, rather than to make the sewers larger,—hence, more costly and less suitable for dry-weather flow.

By properly restricting the admission of storm-water,—correcting if need be by experience of the working of the system, as it develops year after year,—this flooding may be almost wholly avoided.

The Providence system of sewers, which was designed and in large part built from three to five years ago, and which is sometimes quoted as one of the best in existence, is based on this theory, of providing for one inch of rainfall per hour,—its main peculiarity in this respect being that the additions for steepness of surface both ways, were carefully and scientifically worked out. Several of these sewers have been overflowed once or more in unusual storms, and considerable complaint has followed, somewhat as anticipated.

Provision even to this extent requires very costly mains for large districts, especially if the slope is small or the out-

fall is far distant, and in such cases it becomes very important to avail of every allowable way of reducing cost.

In some cases, sewers can be allowed to overflow when running full or nearly so, thus discharging part of their contents at suitable points short of the outfall. The extent to which this can judiciously be done depends on local circumstances, such as the size and strength of the stream discharged into, its proximity to houses, etc.

The intercepting sewers built some fifteen years ago for the London Main Drainage System, were designed to carry only one-quarter inch of storm-water in twenty-four hours, or about five-eighths of a cubic foot of water per minute per acre, plus the house sewage. It was estimated that in an average year there would be twelve storms which would send water to the mains faster than this, and overflows were made for discharging the excess into the Thames by the easiest routes. In several instances since the completion of these works, the excess of storm-water above the capacity of the sewers has flooded many cellars and low-lying grounds, and great complaint has been made in consequence.

The capacities of the main sewers now in process of construction for Boston, were fixed on the same basis as the London system; that is, to provide for the house sewage and one-quarter inch of storm-water in twenty-four hours. But heavy rainfalls are so much more frequent here than in London, that the Boston system, when all the lateral sewers are completed and connected, will probably be overcharged some thirty times per year. This number of overflows, at the corresponding low rate of dilution, may be tolerated in Boston, where the discharges can be made directly into the large volume of water in the harbor.

One strong reason for keeping the capacity of the mains down to the smallest limit allowable, both in London and in Boston, is that all their contents have to be raised by pumping.

But it should be remembered, in this connection, that foul



water becomes dangerous and otherwise offensive about in proportion to the degree of pollution. Hence one principal desideratum is to secure the highest practicable rate of dilution.

In view of the objections against turning sewage into Charles river above tide-water, it is obviously desirable to include as much as practicable of our territory in the district discharging at the proposed outfall. The area which can conveniently be included in this district, is estimated approximately at five thousand five hundred acres, which is something less than half the total area of the city. A small area of low land near Riverside, also Lower Falls Village, Upper Falls Village, and the southerly part of the Highlands cannot be brought into this district at any reasonable cost. I estimate the number of inhabitants in these places, together with those outside of all the villages, at about one-fifth of the whole population of the city,—leaving about four-fifths within the drainage district of five thousand five hundred acres.

To carry all the water of ordinary storms from this district would require sewers of enormous size. And as large parts of the district are now, and will long continue to be unoccupied by buildings, the drainage from them may safely be allowed to flow off through the natural brooks.

As a general rule, it seems reasonable to build main sewers of such sizes as will answer for about twenty-five years to come. Present outlay for anything not needed within that time is usually injudicious, because the cost will quadruple itself at compound interest; and after all, the work may prove useless or nearly so, owing to the impossibility of foreseeing what will be needed so far in the future.

It is difficult to estimate with much confidence, how fast the unoccupied areas will be built upon, but I judge from the past rate of growth of the city, that there will be nearly fifty thousand inhabitants within this drainage district

twenty-five years hence, and that about three thousand four hundred acres will be occupied to such an extent, that its drainage will be unfit to run in the natural channels.

It will not be necessary, however, to provide sewers for carrying away all the water from this area in large storms. But it will be extremely desirable to take a large part of it, because, as previously mentioned, the first run will be mixed with foul matter to such an extent as to be about as objectionable in the open channels as house sewage would be ; in fact, gutter-water, often appears much fouler than ordinary dry-weather sewage. It is also desirable to get a good run of water through the sewers at every storm, for the purpose of flushing them out, — the ordinary dry-weather flow being too feeble and sluggish, in many cases.

The amount of storm-water which should be taken through the sewers, will depend upon the amount of refuse produced within the district, and hence upon the population, both as to refuse matters from buildings and filth caused by travel on the streets. It should be observed, however, that Newton is almost wholly a city of residences, so that the amount of refuse to be removed is much less than it would be if the inhabitants generally remained there and worked at trades and manufacturing.

On the whole, I believe it will be best to follow the common practice as to lateral and small branch sewers, *i. e.*, to make them with capacities for thirty cubic feet per minute per acre of flat territory, with suitable allowances for steepness. Also to make the larger branches of various less capacities down to five cubic feet per minute per acre, according to circumstances ; and to make a main sewer capable of carrying four and one-half cubic feet per minute per acre, including the house sewage, or about fourteen thousand five hundred cubic feet per minute, from the area of three thousand four hundred acres.

The scheme which I recommend is intended to fulfil these

conditions, and is shown somewhat in detail by the accompanying plans and profiles.\*

It will be advisable to provide for the future drainage of the lower part of the valley of Cheese-cake brook, and the river slope east of it, by keeping the main sewer low enough to receive a branch from this territory. This branch may enter the main near the brook, a short distance east of Jefferson Street. At this point, the crown of the main should be at grade 14.36 ; and starting from this, it may fall one in 1,250 ; which, if continued so far, would bring the crown to about grade 9.00 at the outfall. But instead of this, a short piece of the sewer next the outfall should run down much more rapidly, so as to carry the discharge below low-water mark.

I estimate that the tide at the proposed outfall is below grade 9.00 about five-sixths of the time. Spring tides rise to about grade 11.00. A sewer of eight feet six inches in diameter, running full and at the proposed grade, will discharge about eleven thousand five hundred cubic feet per minute, when the tide is at grade 11.00 ; about fourteen thousand nine hundred cubic feet per minute, when the tide is at grade 9.00, and more at lower stages. Considering all the facts, I believe this size, or an equivalent about eight feet wide and nine feet high, is the best to adopt.

The principal branch sewer from West Newton down to Galen Street, cannot well have a fall of more than .065 per hundred, or one in 1,538 ; and it seems best to make it eight and one-half feet in diameter up as far as Crafts Street, where it will receive the drainage from the south part of Newtonville, and probably in the future, from Newton Centre.

When a large part of the three thousand four hundred acres shall have been sewered on this basis, it may occasionally happen that the principal branch sewers will all run full at the same time. During the short and infrequent times

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\* The plans and profiles here referred to are on file in the office of the City Clerk, where they may be seen.

when this occurs, the excess of flow from the branches should be discharged into the river, by an overflow at the head of the main, as indicated on one of the plans. At such times the house sewage will be less than one per cent of the whole flow. When the whole system shall be completed, there may be several storms per year which would overflow the principal branch and main sewers if all the water were admitted to them. When this time comes, many of the inlet openings may be reduced, so as to exclude more of the storm-water, and additional brook channels or "storm-sewers" may be made as found needful. Possibly storm overflows may also be made at other places besides the head of the main. Some relief may also be obtained incidentally by the construction of branches needed in new streets, etc.

The construction of this system, — if the city should decide to enter upon it, — would naturally be extended over some fifteen or twenty years. Within this time, many new streets will be laid out, and other changes will be made which cannot now be foreseen ; and doubtless, some of the details now suggested may need to be altered to suit the new conditions. Probably some of the details may also be changed to advantage, in consequence of more full and exact information which may be obtained prior to construction. In other words, the plans indicate what seems best according to our present knowledge and our best forecasts as to the future. The locations and sizes of some sewers which seem most likely to be changed, in consequence of lapse of time and change of circumstances, are indicated on the plans by broken lines, and some locations are indicated by pencil lines only.

The streets of Newton having been laid out without reference to sewerage are much less convenient therefor than they might have been ; that is, a better system of sewers could be made at much less cost if the streets had been rightly located for it. In many cases we can secure shorter and straighter routes, less depth of cutting, less rock excavation, etc., by leaving the streets and running through

private lands. Usually, however, small sewers will be required in the streets so abandoned. The differences in cost of construction and other advantages of one scheme over another can be estimated with confidence. But the cost of right of way is a very uncertain element, and in many cases the choice between different locations would depend upon the spirit, — whether fair or extortionate, — in which the landholders meet the city. Some of the alternative routes depending on the attitude of landholders are indicated by pencil lines on plans.

It would seem to be wise for the city to secure the routes which will soon be needed for sewers, before they shall be further obstructed by buildings, etc., and generally to use all legitimate means of controlling the locations of new streets, both for convenience of drainage and in the general interest of tax-payers and the travelling public, instead of leaving them to the short-sightedness and self-interest of men whose principal object is to sell the utmost possible number of house-lots out of a given piece of land, as has often been done.

Before proceeding to construction, the quality of materials and workmanship to be secured should be carefully considered. Much of the sewer work in this country is too poor for true economy, both as to the durability and the proper working of sewers. Irregular sags in the grades, and great roughness of interior surface are very common, and they contribute largely to the formation of deposits in sewers. Cities which build poor sewers are almost sure to neglect them afterwards, so that they become reservoirs of pestilential filth, producing great quantities of offensive and poisonous gases. Practically, but few houses are well protected from the entrance of sewer gases through their soil pipes, though it is possible to do it; but even then the inhabitants suffer from the general pollution of the soil and air.

These dangerous nuisances are not uncommon in New England cities; but they can be wholly avoided by good plans, good construction, and subsequent good care.

These considerations are especially important in connection



with the large areas of flat land in Newton, where the sewers can have but slight falls.

The discharge of sewage into Charles river, even temporarily, at any place above the outfall herein proposed, would be somewhat objectionable, and would be strongly opposed; so that it seems impracticable to begin on a small scale by constructing and using any of the lateral sewers first.

The cost of the main and principal branch sewers will be a very large part of the cost of the whole system. Considering the delay which may result from this, and the probability that in any case, large parts of the system will not be built for several years,—during which time prices may vary considerably,—it seems useless to undertake to make close estimates of the cost; but I append approximate estimates for some of the principal lines of sewers which will be needed, first, separating them into divisions so as to indicate the cost of reaching some of the more important points. These estimates include land damages and engineering:

*1st Division.*—From outfall near the arsenal, westerly across the marsh, and along the foot of the steep river bank to junction of Ward 7 branch, near Lemon's brook, main sewer eight and one-half feet in diameter, or eight feet by nine feet oval . . . . . \$175,000

*2nd Division.*—From Ward 7 branch to and through Maple Street, thence via Galen and Boyd, or Galen and Morse Streets, to Boyd's pond; thence along the shore of the pond to Pearl Street; diameter eight and one-half feet . . . . . 100,000

*3rd Division.*—From Pearl Street, across lands of J. Sturgis Potter and others, and through Middle Street, so called, to Adams Street; thence through a private street and across Crafts Street to the junction of the branch from the south part of Newtonville; diameter eight and one-half feet . . . . . 61,000

*4th Division.*—From Newtonville south branch, across private lands to Central Avenue; thence through Turner Street to Walnut Street; diameter six feet nine inches 30,000

*5th Division.*—From Turner Street via Walnut and Watertown Streets to Brookside Avenue; sewer six feet nine inches in diameter . . . . . 39,000

(Perhaps some saving can be made in this division by crossing private grounds.)

*6th Division.*—From Brookside Avenue, via Watertown and Washington Streets to Waltham Street; sewer six feet three inches by six feet nine inches . . . . . 60,000

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\$465,000

Respectfully,

EDWARD SAWYER.

BOSTON, November 30, 1878.

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